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1. Geography

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- Video 1
- Video 2
- Video 3
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1.1. Quadilateral Meet

- Quadrilateral meet among India, Japan, Australia and the United States at Bangkok, Thailand.

The Quad Group

- The Quadrilateral Security Dialogue (QSD, also known as the Quad) is an informal strategic dialogue between the United States, Japan, Australia and India that is maintained by talks between member countries. The dialogue was initiated in 2007 by Prime Minister Shinzo Abe of Japan.

- It was originally initiated in 2007 but dismantled after withdrawal of Australia.

- However, it was revived in 2017 in response to increased Chinese influence in the region.

Outcomes

- At the meet countries held consultations on their collective efforts for a free, open and inclusive Indo-Pacific region.

- The consultations also underscored Quad's intention of continuing with close coordination and collaboration among themselves in support of sustainable, private sector-led development, maritime security of the region and of good governance.

1.2. Organisation Of Islamic Corporation

- 14th summit
- Mecca, Saudi Arabia
- current issues in Muslim world
- recent developments in OIC member states.

OIC

- Organisation of Islamic Cooperation is an international organization founded in 1969.

- Membership : 57 states

- Permanent Secretariat is in Jeddah, Saudi Arabia.

- The official languages of the OIC are Arabic, English, and French.

- 2019 is the 50th anniversary of OIC.
The Organization is the collective voice of the Muslim world. It endeavors to safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony among various people of the world.

The OIC has permanent delegations to the United Nations and the European Union.

1.3. New START (Strategic Arms Reduction Treaty)

- New START (Strategic Arms Reduction Treaty) is a nuclear arms reduction treaty between the United States and the Russian Federation with the formal name of Measures for the Further Reduction and Limitation of Strategic Offensive Arms. It was signed on 8 April 2010 in Prague, and, after ratification,

- It entered into force on 5 February 2011.

1.4. Siachen Glacier

- The Siachen Glacier lies immediately south of the great drainage divide that separates the Eurasian Plate from the Indian subcontinent in the extensively glaciated portion of the Karakoram sometimes called the "Third Pole".

- Operation Meghdoot

Glaciers In India

- Batura Glacier J & K – Karakoram range
- Khurdopin Glacier J & K – Karakoram range
- Hispar Glacier J & K – Karakoram range
- Biafo Glacier J & K – Karakoram range
- Baltoro Glacier J & K – Karakoram range
- Chogolungma glacier J & K – Karakoram range
- Diamir Glacier J & K – Karakoram range

Siachin Glacier

- LOC between India & POK
- Close to China border – Karakoram Range
- Gangotri Glacier Uttarkashi, Uttarakhand

Milam Glacier

- located in Trishul peak of Pithoragarh of Uttarakhand
- Source of Goriganga

Pindari glacier

- Nanda devi, Uttarakhand
Zemu Glacier

- Largest glacier in the Eastern Himalaya
- Located on Kanchenjunga peak, Sikkim

1.5. Mount Etna

- Italy
- It is the highest active volcano in Europe
- Longest record of continuous eruption.
- Due to its history of recent activity and nearby population, Mount Etna has been designated a Decade Volcano by the United Nations.
- In June 2013, it was added to the list of UNESCO World Heritage Sites.

Note: Find The Highest / Largest Volcanoes Of The World.

1.6. Nasa (Insight) Mission

- The Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight) mission is a robotic lander designed to study the deep interior of the planet Mars
- Through three of its important components:

**Seismic Experiment for Interior Structure (SEIS):**

- It will provide information on how quakes that can be caused by processes other than just tectonic action could travel through Mars.
- Understanding how the planet is layered will help scientists work backward, piecing together how dust, metals and ices in the early solar system combined to form the Red Planet.

**Rotation and Interior Structure Experiment (RISE):**

- Insight has onboard Rotation and Interior Structure Experiment (RISE) which will precisely tracks the location of the Lander to determine just how much Mars' North Pole wobbles as it orbits the sun.
- These observations will provide detailed information on the size of Mars' iron-rich core, determining whether the core is liquid, and which other elements, besides iron, may be present.

**Heat Flow and Physical Properties Probe (HP3)**

- It will burrows down to almost 16 feet (five meters) into Mars' surface. That's deeper than any previous arms, scoops, drills or probes before it.
- It will measure the heat coming from Mars' interior to reveal how much heat is flowing out of the body of the planet, and what the source of the heat is.
- This will help scientists determine whether Mars formed from the same stuff as Earth and the Moon.
Why In News?

• NASA figured it would be able to push itself as deep as 16 feet into the Martian crust, but the consistency of the soil has made that difficult.

• Now they intend to use InSight’s robotic arm to push on the soil surrounding the probe; it could give the mole enough friction to hammer itself deeper underground.

1.7. Air Traffic Management

• The Airports Authority of India (AAI) and aerospace major Boeing on Tuesday announced the signing of a technical assistance agreement to develop an air traffic management roadmap which will improve airspace utilisation and help maintain efficient aircraft operations.

• The comprehensive 10-year communication, navigation and surveillance/air traffic management (CNS/ATM) modernisation roadmap spread over 18 months is being undertaken with a grant from the US Trade and Development Agency (USTDA).

1.8. International Renewable Energy Agency (IRENA)

• Report: Renewable Power Generation Costs in 2018

• IRENA analysed 8 major solar Photo Voltaic Cells markets from 2010 to 2018.

• China, France, Germany, India, Italy, Japan, UK, US.

• Renewable energy sources have witnessed cost decline globally.

• Canada has the highest cost.

• India is lowest-cost producer of solar power globally. Costs have dropped by 80 per cent in India.

IRENA

• The International Renewable Energy Agency (IRENA) is an intergovernmental organisation mandated to facilitate cooperation, advance knowledge, and promote the adoption and sustainable use of renewable energy.

• It is the first international organisation to focus exclusively on renewable energy, addressing needs in both industrialised and developing countries.

• It was founded in 2009 and its statute entered into force on 8 July 2010.

• The agency is headquartered in Masdar City, Abu Dhabi.

• IRENA is an official United Nations observer.

1.9. Pacific Ring Of Fire

• Mount Sinabung volcano

• Sumatra Island, Indonesia.
Ring Of Fire

- Ring of Fire is a major area in the basin of the Pacific Ocean where many earthquakes and volcanic eruptions occur.
- The Ring of Fire is sometimes called the circum-Pacific belt.
- About 90% of the world’s earthquakes and 81% of the world's largest earthquakes occur along the Ring of Fire ➢ Mount St. Helens in the USA
- Mount Fuji in Japan
- Mount Pinatubo in the Philippines.
- The Ring of Fire is the result of the subduction of oceanic tectonic plates beneath lighter continental plates.

1.10. G20

- G20 Ministerial meeting on Trade and Digital Economy
- Tsukuba (Japan) About G20:
  - The G20 (or Group of Twenty) is an international forum for the governments and central bank governors from 19 countries and the European Union (EU).
  - Founded in 1999 with the aim to discuss policy pertaining to the promotion of international financial stability, the G20 has expanded its agenda since 2008 and heads of government or heads of state, as well as finance ministers and foreign ministers, have periodically conferred at summits ever since.
  - Membership of the G20 consists of 19 individual countries plus the European Union. The EU is represented by the European Commission and by the European Central Bank.
  - Collectively, the G20 economies account for around 85 percent of the Gross World Product (GWP), 80 percent of world trade.
  - The G20 has no permanent staff of its own and its chairmanship rotates annually between nations divided into regional groupings.
  - India is a member.

1.11. SCO Summit 2019

- Bishkek, Kyrgyzstan.
- The Shanghai Cooperation Organisation (SCO), or Shanghai Pact, is a Eurasian political, economic, and security alliance, the creation of which was announced on 15 June 2001 in Shanghai, China by the leaders of China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, and Uzbekistan; the Shanghai Cooperation Organisation Charter, formally establishing the organisation, was signed in June 2002 and entered into force on 19 September 2003.
- The original five nations, with the exclusion of Uzbekistan, were previously members of the Shanghai Five group, founded on 26 April 1996.
Since then, the organisation has expanded its membership to eight countries when India and Pakistan joined SCO as full members on 9 June 2017 at a summit in Astana, Kazakhstan.

1.12. Information Fusion Centre – Indian Ocean Region

- The IFC has been established at Gurugram, India and is collocated with the Information Management and Analysis Centre which is jointly administered by the Indian Navy and Indian Coast Guard.
- IFC-IOR is established with the vision of strengthening maritime security in the region and beyond, by building a common coherent maritime situation picture and acting as a maritime information hub for the region.
- Establishment of IFC-IOR would ensure that the entire region is benefitted by mutual collaboration and exchange of information and understanding the concerns and threats which are prevalent in the region.

1.13. Windrush Scheme

- The Windrush Scheme enables Commonwealth citizens, their children, and some other long term residents of the UK to obtain documentation confirming their status free of charge.
- The Windrush generation refers to citizens of former British colonies who arrived before 1973 when the rights of such Commonwealth citizens to live and work in Britain were substantially curtailed.
- The immigrants came at the invitation of the British government, which was facing a labour shortage due to the destruction caused by World War II.
- While a large proportion of them was of Jamaican/Caribbean descent who came on the ship Windrush, Indians and other South Asians were also affected by the UK government’s handling of their immigration status.

1.14. Cyclone Vayu

- Named by India. What about names of Cyclones in India & the neighbourhood? The Regional Specialized Meteorological Centre (RSMC) of Tropical Cyclones in New Delhi is assigned the responsibility of issuing weather outlooks and tropical cyclone advisories for the countries in the WMO/ESCAP Panel region bordering the Bay of Bengal and the Arabian Sea.
- This is also the agency responsible for naming the cyclones in this region. The WMO/ESCAP Panel on Tropical Cyclones at its twenty-seventh Session held in the year 2000 in Muscat (Oman) agreed in principle to assign names to the tropical cyclones in the Bay of Bengal and the Arabian Sea.
- After long deliberations among the member countries, the naming of the tropical cyclones over the north Indian Ocean commenced from September 2004. The eight-panel members are India, Bangladesh, Maldives, Myanmar, Oman, Pakistan, Sri Lanka & Thailand. The RSMC (New Delhi) gives each tropical cyclone an identification name from the below name list. The identification system covers both the Arabian Sea and the Bay of Bengal.
1.15. Particularly Vulnerable Tribal Group

- Abujh Marias
- Abujhmarh, where this tribe lives, is considered by the government to be one of the last remaining strongholds of Left-wing extremism.

- The Abujhmarh forest is spread over 1,500 square miles in the Bastar region of Chhattisgarh. About ‘Particularly Vulnerable Tribal Groups (PVTGs)’

- The PVTGs are the marginalized section of the Scheduled tribes of India. They are a section who are relatively isolated, educationally and socio-economically backward, living in a habitat far away from amenities.

- PVTG is not a Constitutional category, nor are these constitutionally recognized communities. It is a government of India classification created with the purpose of enabling improvement in the conditions of certain communities with particularly low development. The criteria followed for determination of PVTGs are as under:
  - A pre-agriculture level of technology;
  - A stagnant or declining population;
  - Extremely low literacy; and
  - A subsistence level of the economy.

Background

- The Dhebar Commission (1960-1961) stated that within Scheduled Tribes there existed an inequality in the rate of development. During the fourth Five Year Plan a sub-category was created within Scheduled Tribes to identify groups that considered to be at a lower level of development. This was created based on the Dhebar Commission report and other studies. This sub-category was named "Primitive tribal group".

- The features of such a group include a pre-agricultural system of existence, that is a practice of hunting and gathering, zero or negative population growth, extremely low level of literacy in comparison with other tribal groups. In 2006 the government of India proposed to rename "Primitive tribal group" as Primitive and vulnerable tribal group. PTG has since been renamed Primitive and vulnerable tribal group by the government of India.

1.16. Kimberley Process

- Inter-sessional meeting of Kimberley Process (KP)
- Mumbai.
- India is currently the Chair of Kimberley Process Certification Scheme (KPCS).
- India is a founding member of KPCS.
- What is the Kimberley Process?
- The Kimberley Process (KP) is a multilateral trade regime established in 2003 with the goal of preventing the flow of conflict diamonds.
The core of this regime is the Kimberley Process Certification Scheme (KPCS) under which States implement safeguards on shipments of rough diamonds and certify them as “conflict free”.

The KP has 55 participants, representing 82 countries, including the European Union.

1.17. Osiris-Rex

The Osiris-Rex (Origins, Spectral Interpretation, Resource Identification, Security, Regolith Explorer) is a NASA asteroid study and sample-return mission.

The mission's main goal is to obtain a sample of at least 60 grams (2.1 oz) from 101955 Bennu, a carbonaceous near-Earth asteroid, and return the sample to Earth for a detailed analysis.

The closest-ever orbit of a planetary body made by a man-made spacecraft.

Orbit 680 meters above the asteroid Bennu’s surface.

1.18. Indian Space Station

K. Sivan, Chairman of Indian Space Research Organisation (ISRO) recently announced that the country is planning to launch its own space station. After its successful launch, India would become a 4th country to launch a space station.

The proposed space station is anticipated to weigh about 20 tonnes, it would be placed in an orbit 400 km above the earth and will serve as a facility where astronauts can stay for up to 15-20 days in space.

India is targeting 2030 as the date to launch the country’s space station which will likely be used to conduct microgravity experiments.

1.19. Blight Disease In Rice

Sheath blight is a fungal disease caused by Rhizoctonia solani.

Rice sheath blight is an increasing concern for rice production, especially in intensified production systems. ➢ Sheath blight occurs in areas with high temperature (28−32°C), high levels of nitrogen fertilizer, and relative humidity of crop canopy from 85−100%.

Plants are more vulnerable to sheath blight during the rainy season.

1.20. Strait of Hormuz

Channel linking the Persian Gulf (west) with the Gulf of Oman and the Arabian Sea.

Most crude exported from Saudi Arabia, Iran, the UAE, Kuwait, and Iraq – all members of the Organization of the Petroleum Exporting Countries (OPEC) – are shipped through this waterway.

1.21. Kailash Manasarovar Yatra

The highest freshwater lake in the world.

Tibet Autonomous Region, China

Lake Manasarovar is near the source of the Sutlej, which is the easternmost large tributary of the Indus.
1.22. Nathu La

- Nathu La is a mountain pass in the Himalayas in East Sikkim district.
- It connects the Indian state of Sikkim with China's Tibet Autonomous Region.
- In June 2013, it was added to the list of UNESCO World Heritage Sites.

1.23. GI Tag

- Kolhapuri chappal jointly received by Karnataka and Maharashtra.
- A geographical indication (GI) is a name or sign used on products which corresponds to a specific geographical location or origin (e.g., a town, region, or country).
- The use of a geographical indication, as a type of indication of source, acts as a certification that the product possesses certain qualities, is made according to traditional methods, or enjoys a certain reputation, due to its geographical origin.
- Geographical Indications protection is granted through the TRIPS Agreement.
- India, as a member of the World Trade Organization (WTO), enacted the Geographical Indications of Goods (Registration and Protection) Act, 1999 has come into force with effect from 15 September 2003.
- The Controller-General of Patents, Designs and Trade Marks shall be the Registrar of Geographical Indications.
- The GI tag ensures that none other than those registered as authorised users (or at least those residing inside the geographic territory) are allowed to use the popular product name.
- Darjeeling tea became the first GI tagged product in India, in 2004, and since then by October 2018, 321 had been added to the list.
- These are listed here.

1.24. Operation Sunrise

- Operation Sunrise 2: India, Myanmar armies target Northeast-based militants.
- The first phase of "Operation Sunrise" was conducted three months ago along the Indo-Myanmar border, during which a number of camps of north-east-based militant groups were busted.
- India – Myanmar
- Kaladan Multimodal Project

1.25. Operation Sankalp

- Indian Navy launched Operation Sankalp in the Persian Gulf and the Gulf of Oman to reassure Indian flagged vessels transiting through the area following the recent maritime incidents in the region.
The operation has been launched in the wake of escalating tension in the Gulf of Oman, where two oil tankers were attacked last week.

Indian Naval Ships, INS Chennai (Kolkata-class stealth guided missile destroyers) and INS Sunayna (Saryu-class patrol vessel) have been deployed in region to undertake maritime security operations. In addition to this aerial surveillance is also being done in area by IN aircraft.

The Information Fusion Centre-Indian Ocean Region (IFC-IOR) of Indian Navy is also keeping a close watch on movement of ships in Gulf region.

### 1.26. African Union (AU)

- India -- $15 Million financial support Niger.
- The African Union (AU) is a continental union consisting of 55 member states located on the continent of Africa, with exception of various territories of European possessions located in Africa.
- The AU was announced in the Sirte Declaration in Sirte, Libya on 9 September 1999, calling for the establishment of the African Union.
- The bloc was founded on 26 May 2001 in Addis Ababa, Ethiopia and launched on 9 July 2002 in South Africa.
- The intention of the AU is to replace the Organisation of African Unity (OAU), established on 25 May 1963 in Addis.
- The primary languages spoken include Arabic, English, French, Portuguese, Spanish, Swahili and the languages of Africa.
- Within the African Union, there are official bodies such as the Peace and Security Council and the Pan-African Parliament.
- Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (RECAAP)
- The Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (RECAAP) is the first regional government-to-government agreement to promote and enhance cooperation against piracy and armed robbery against ships in Asia.
- The Agreement entered into force on 4 September 2006.
• To date, 20 States (14 Asian countries, 4 European countries, Australia, the USA) have become Contracting Parties to RECAAP.

• The 20 Contracting Parties of the RECAAP

1.27. Kaleswaram Project

• Kaleswaram Lift Irrigation Project [KLIP] is a multi-purpose irrigation project on the Godavari River in Kaleswaram, Bhoopalpally, Telangana, India.

• This is world's largest multi-stage lift irrigation project. Kaleswaram Lift Irrigation Project starts at the confluence point of Pranahita River and Godavari River i.e, at Kaleswaram village in Telangana.

• The Kaleswaram project will support Mission Kakatiya and Mission Bhagiratha schemes designed to provide drinking water to many villages and improve the capacities of tanks.

1.28. Mission Kakatiya

• It is a flagship programme launched by the Government of Telangana which aims at rejuvenation of water tanks and other water storage structures to provide assistance and help to the small and marginal farmers of the state.

Note

• Marginal Farmer' means a farmer cultivating (as owner or tenant or share cropper) agricultural land up to 1 hectare (2.5 acres). ...

• 'Small Farmer' means a farmer cultivating (as owner or tenant or share cropper) agricultural land of more than 1 hectare and up to 2 hectares (5 acres)

1.29. Mission Bhagiratha

• It is a project for safe drinking water for every village and city household in Telangana State. It aims is to provide piped water to 2.32 crore people in 20 lakh households in urban and 60 lakhs in rural areas of Telangana. The ambitious project will supply clean drinking water to all households in the state through water sourced from River Godavari and River Krishna.

1.30. Small Island Developing States

• Small Island Developing States (SIDS) are a group of small island countries that tend to share similar sustainable development challenges, including small but growing populations, limited resources, remoteness, susceptibility to natural disasters, vulnerability to external shocks, excessive dependence on international trade, and fragile environments.

• The SIDS were first recognized as a distinct group of developing countries at the United Nations Conference on Environment and Development in June 1992.

• The Barbados Programme of Action was produced in 1994 to assist the SIDS in their sustainable development efforts.
Many small island developing states (SIDS) may fail to achieve several Sustainable Development Goals by 2030 because of increasing population and climate change risks, according to the United Nation’s report on World Population Prospects 2019.

1.31. World Population Projections 2019

- Population Division of the UN Department of Economic and Social Affairs.
- Through the end of the century (between 2019 and 2050) India (with an estimated population of 1.37 billion) is expected to remain the world’s most populous country, followed by China, Nigeria, United States of America, and Pakistan.
- The global population is projected to increase by another 2 billion people by 2050.
- Aging of the world's population will also spike due to increasing life expectancy and falling fertility levels.
- Aging will result in a decline in the proportion of the working age population that in turn will exert pressure on social security systems. Europe and North America will have a much higher number of aging population.
- In countries like Bangladesh, Nepal and the Philippines out-migration plays a key in population change (outflow of migrant workers).

1.32. Mount Everest

World's Highest Weather Station

- The National Geographic Society (NGS), a US based non-profit scientific and educational organizations announced successful installation of world’s highest operating weather stations on Mount Everest.
- This installation was part of National Geographic and Rolex’s Perpetual Planet Extreme Expedition to Everest.

National Geographic And Rolex’s Perpetual Planet Extreme Expedition To Everest

- It was multipurpose scientific expedition held from April to June 2019.
- It was most comprehensive single scientific expedition to mountain in history.
- It included International team of scientists, climbers and story-tellers, led by researchers from National Geographic Society (NGS).

1.33. National Freight Index: By Rivigo Logistics

- Rivigo, a Gurgaon-based tech-enabled logistics start-up has launched National Freight Index (NFI) that will provide live freight rates for different lanes and vehicles across the country.
- NFI offers a combined picture of both live rates and historical trends of spot price movements in India’s road freight industry.
Index is represented in two main forms:

- In terms of actual freight rates condensed to Rupees per tonne-km
- In terms of relative movement with respect to a base month.

Rates on both index and exchange are based on Rivigo's economics powered pricing algorithms and machine learning.

1.34. Kaladan Multimodal Project

- The Kaladan Multi-Modal Transit Transport Project is a US$484 million project connecting the eastern Indian seaport of Kolkata with Sittwe seaport in Rakhine State, Myanmar BY SEA. In Myanmar, it will then link Sittwe seaport to Paletwa in Chin State via the Kaladan RIVER BOAT ROUTE, and then from Paletwa BY ROAD to Mizoram state in Northeast India. Originally, the project was scheduled to be completed by 2014, but is expected to be operational only by 2019-2020.

1.35. Summer Solstice 2019

- The solstice at midsummer, at the time of the longest day, about 21 June in the northern hemisphere and 22 December in the southern hemisphere.

1.36. Unique Flood Hazard Atlas: Odisha

- Odisha has come out with a unique flood hazard atlas aided by satellite imagery, which is expected to help the coastal state manage floods more efficiently.
- Base Period: Atlas is compiled on basis of historic flood inundation captured via satellite imagery over 18 years period from year 2001 to 2018.

1.37. G20 Summit 2019

- Osaka, Japan
- The G20 (or Group of Twenty) is an international forum for the governments and central bank governors from 19 countries and the European Union (EU).
- Founded in 1999 with the aim to discuss policy pertaining to the promotion of international financial stability, the G20 has expanded its agenda since 2008 and heads of government or heads of state, as well as finance ministers and foreign ministers, have periodically conferred at summits ever since.
• The G20 Summit is formally known as the "Summit on Financial Markets and the World Economy".
• Membership of the G20 consists of 19 individual countries plus the European Union.
• The EU is represented by the European Commission and by the European Central Bank.
• Collectively, the G20 economies account for around 90% of the gross world product (GWP), 80% of world trade (or, if excluding EU intra-trade, 75%), two-thirds of the world population, and approximately half of the world land area.
• After the Asian Financial Crisis in 1997-1998, it was acknowledged that the participation of major emerging market countries is needed on discussions on the international financial system, and G7 finance ministers agreed to establish the G20 Finance Ministers and Central Bank Governors meeting in 1999.
• The group has no permanent staff of its own, so every year in December, a G20 country from a rotating region takes on the presidency.
• The group's chair rotates annually among the members and is selected from a different regional grouping of countries.
• The incumbent chair establishes a temporary secretariat for the duration of its term, which coordinates the group's work and organizes its meetings.
• The current chair of the G20 is Japan.
• The Summit of G20 Finance Ministers and Central Bank Governors, who prepare the leaders' summit and implement their decisions, was created as a response both to the financial crisis of 2007–2008 and to a growing recognition that key emerging countries were not adequately included in the core of global economic discussion and governance. Additionally, the G20 Summits of heads of state or government were held.
• After the 2008 debut summit in Washington, DC, G20 leaders met twice a year: in London and Pittsburgh in 2009 and in Toronto and Seoul in 2010.
• Since 2011, when France chaired and hosted the G20, the summits have been held only once a year.
• The 2016 summit was held in Hangzhou, China, the 2017 summit was held in Hamburg, Germany and the 2018 summit was held in Buenos Aires, Argentina.
• At first, the G20 was mostly attended by. That changed after the global financial crisis in 2008. With banks collapsing, unemployment rising and wages stagnating, the organisation turned into an emergency council for presidents and prime ministers.

Full membership of the G20
• Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, Mexico, Russia, Saudi Arabia, South Africa, South Korea, Turkey, the United Kingdom, the United States and the European Union.
1.38. Fortified Rice

- Department of Food & Public Distribution
- Centrally Sponsored Scheme
- Financial Assistance
- Up to 90% in case of North-Eastern, Hilly and Island States
- 75% in case of rest of the States.

Fortification is the practice of deliberately increasing the content of an essential micronutrient, i.e. vitamins and minerals (including trace elements) in a food, so as to improve the nutritional quality of the food supply and provide a public health benefit with minimal risk to health.

Fortified rice are contains Vitamin A, Vitamin B1, Vitamin B12, Folic Acid, Iron and Zinc.

WHO Recommendations

- Fortification of rice with iron is recommended as a public health strategy to improve the iron status of populations, in settings where rice is a staple food. Fortification of rice with vitamin A may be used as a public health strategy to improve the iron status and vitamin A nutrition of populations. Fortification of rice with folic acid may be used as a public health strategy to improve the folate nutritional status of populations.

India

- Food Safety and Standards Authority of India (FSSAI)
- Food Safety and Standards (Fortification of Foods) Regulations, 2016'

1.39. Space Activities Bill, 2017

- To promote and regulate the space activities of India by encouraging the participation of non-governmental/private sector agencies under the guidance and authorisation of the government through the Department of Space.

Salient Features

- It will apply to every citizen of India and to all sectors engaged in any space activity in India or outside India.
- A non-transferable licence shall be provided by the Central Government to any person carrying out commercial space activity.
- The Central Government will maintain a register of all space objects (any object launched or intended to be launched around the earth) and formulate the appropriate mechanism for licencing, eligibility criteria, and fees for licence.
- It will provide professional and technical support for commercial space activity and regulate the procedures for conduct and operation of space activity.
- It will ensure safety requirements and supervise the conduct of every space activity of India and investigate any incident or accident in connection with the operation of a space activity.
• It will share details about the pricing of products created by space activity and technology with any person or any agency in a prescribed manner.

• If any person undertakes any commercial space activity without authorisation they shall be punished with imprisonment up to 3 years or fined more than ₹1 crore or both.

• It also has provisions for the protection of IPR created through space activity.

**Outer Space Treaty**

• The Outer Space Treaty, formally the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, is a treaty that forms the basis of international space law.

**Key Points**

• The Outer Space Treaty represents the basic legal framework of international space law. Among its principles, it bars states party to the treaty from placing weapons of mass destruction in Earth orbit, installing them on the Moon or any other celestial body, or otherwise stationing them in outer space.

• It exclusively limits the use of the Moon and other celestial bodies to peaceful purposes and expressly prohibits their use for testing weapons of any kind, conducting military maneuvers, or establishing military bases, installations, and fortifications (Article IV).

• However, the treaty does not prohibit the placement of conventional weapons in orbit and thus some highly destructive attack strategies such as kinetic bombardment are still potentially allowable.

• The treaty also states that the exploration of outer space shall be done to benefit all countries and that space shall be free for exploration and use by all the States.

• The treaty explicitly forbids any government to claim a celestial resource such as the Moon or a planet.

• Article II of the treaty states that "outer space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."

• However, the State that launches a space object retains jurisdiction and control over that object. The State is also liable for damages caused by its space object.

**1.40. Falcon Heavy**

• The Falcon Heavy is a partially reusable heavy-lift launch vehicle designed and manufactured by SpaceX.

• Falcon Heavy mega rocket successfully lofted two dozen satellites into orbit.

**1.41. Solar-Powered Sail**

• Light Sail 2 is a crowd-funded solar sail project from the Planetary Society. It seeks to become the first orbiting spacecraft to be propelled solely by sunlight.
1.42. Deep Space Atomic Clock

- The Deep Space Atomic Clock is a sibling of the atomic clocks you interact with every day on your smartphone. Atomic clocks aboard satellites enable your phone's GPS application to get you from point A to point B by calculating where you are on Earth, based on the time it takes the signal to travel from the satellite to your phone. But spacecraft don't have GPS to help them find their way in deep space; instead, navigation teams rely on atomic clocks on Earth to determine location data.

- The farther we travel from Earth, the longer this communication takes. The Deep Space Atomic Clock is the first atomic clock designed to fly onboard a spacecraft that goes beyond Earth's orbit, dramatically improving the process.

- The new technology targets aims at helping spacecraft navigate by themselves, relying on the new atomic clock in space. The DSAC project will perform a year-long demonstration in space.

1.43. ASCENT Green Fuel

- One of the satellites will be a test spacecraft for a safer rocket fuel. The traditional fuel used in satellites is hydrazine, which is extremely toxic to humans as well as the environment. The new alternative is called ASCENT (Advanced Spacecraft Energetic Non-toxic Propellant), formerly called AFM315E, which is a hydroxyl ammonium nitrate fuel/oxidiser blend.

- First developed by the US Air Force and now launched as part of a NASA-led collaboration, ASCENT is described as a fuel with significantly reduced toxicity levels compared to hydrazine, and potentially shorter launch processing times, resulting in lower costs.

1.44. Lunar Evacuation System

- Among preparations for NASA's 2024 Moon mission, one has been to test a device called Lunar Evacuation System Assembly, or LESA.

- Developed by the European Space Agency (ESA), LESA is a pyramid-like structure whose purpose is to rescue an astronaut should he or she suffer an injury on the lunar surface.

- LESA can be operated by a single astronaut to rescue a fallen colleague. It enables an astronaut to lift their crewmate onto a mobile stretcher in less than 10 minutes, before carrying them to the safety of a nearby pressurised lander.

- Astronauts are testing LESA under the sea. With its rocky, sandy terrain and buoyant salt water, the bottom of the ocean floor has much in common with the lunar surface.

1.45. Yamuna Water Taxi Project

- Integrated Development Project
- Terminal Development
- Vessels Operation.
- Total Length Of 16 Km
- Five Locations On The Banks Of River Yamuna In Delhi
### 1.46. Fall Armyworm (FAW)

- Primarily on Maize.
- Ragi and Sorghum.
- Tropical and sub-tropical regions
- Faw has, since 2016, been aggressively moving eastwards, infesting Africa and making landfall in India last summer.
- Continuous pest that is nearly always present and can build permanent populations.
- Within India, faw attacks have already been reported from even Maharashtra, Andhra Pradesh, Telangana, Tamil Nadu, Madhya Pradesh, Chhattisgarh, and West Bengal, while causing damage to the maize, jowar (sorghum) and, to a limited extent, sugarcane crops in these states.
- Both oriental armyworm and faw are polyphagous; their larvae feed on a range of host crop plants.
- The former, though, does not spread very fast, which is why the damage from it in 2017 and even 2018 was largely confined to Karnataka.
- The adult faw moth, in contrast, can fly up to 100 km distance every night, allowing it to invade new geographies very quickly.
- The governments' reported move to allow five lakh tonnes of duty-free maize imports has been attributed mainly to a lower 2018-19 crop from a combination of drought and faw infestation in major producing states.
- The experts feel that the hot and humid climate during the monsoon season is particularly conducive for the propagation of the pest.

### 1.47. National Policy On Biofuels – 2018

- The National Policy on Biofuels-2018 approved by the Government envisages an indicative
  - Target of 20% blending of ethanol in petrol and
  - 5% blending of bio-diesel in diesel by 2030.

**Salient Features**

- The Policy categorises biofuels as "Basic Biofuels" viz. First Generation (1G) bioethanol & biodiesel and "Advanced Biofuels" - Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels, Third Generation (3G) biofuels, bio-CNG etc. to enable extension of appropriate financial and fiscal incentives under each category.
- The Policy expands the scope of raw material for ethanol production by allowing use of Sugarcane Juice, Sugar containing materials like Sugar Beet, Sweet Sorghum, Starch containing materials like Corn, Cassava, Damaged food grains like wheat, broken rice, Rotten Potatoes, unfit for human consumption for ethanol production.
• Farmers are at a risk of not getting appropriate price for their produce during the surplus production phase. Taking this into account, the Policy allows use of surplus food grains for production of ethanol for blending with petrol with the approval of National Biofuel Coordination Committee.

• With a thrust on Advanced Biofuels, the Policy indicates a viability gap funding scheme for 2G ethanol Bio refineries of Rs.5000 crore in 6 years in addition to additional tax incentives, higher purchase price as compared to 1G biofuels.

• The Policy encourages setting up of supply chain mechanisms for biodiesel production from non-edible oilseeds, Used Cooking Oil, short gestation crops.

• Roles and responsibilities of all the concerned Ministries/Departments with respect to biofuels has been captured in the Policy document to synergise efforts.

Additional Info

• First generation biofuels:
  ✓ These are made from food sources such as sugar, starch, vegetable oil, or animal fats using conventional technology.

• Second generation biofuels:
  ✓ These are produced from non-food crops or portions of food crops that are not edible and considered as wastes, e.g. stems, husks, wood chips, and fruit skins and peeling.

• Third generation biofuels:
  ✓ These are produced from micro-organisms like algae

• Fourth Generation Biofuels:
  ✓ In the production of these fuels, crops that are genetically engineered to take in high amounts of carbon are grown and harvested as biomass. The fuel is pre-combusted and the carbon is captured. Then the carbon is geosequestered, meaning that the carbon is stored in depleted oil or gas fields or in unmineable coal seams.

1.48. Jal Hi Jeevan Hai

• The scheme has been launched with an aim to encourage farmers to adopt crop diversification and sow crops consuming less water like Maize, Arhar etc. instead of water guzzling crops such as paddy so as to conserve water.

• Due to continuous paddy growing in the State, about 1 meter of water table is depleting per year.

• Under the scheme, the amount Rs. 2000/acre will be transferred into the accounts of farmers in two phases i.e. Rs. 200/- at the time of registration and the balance Rs. 1800/- after verification of sowing data within two months. Free of cost hybrid seeds would also be provided under the scheme. The diversified crops produced, would be completely procured by the State Government.
1.49. Ibelong Campaign

- The UN Refugee Agency
- 2014
- It aims to end statelessness by 2024 by resolving existing statelessness

1.50. International Seed Testing Association (ISTA)

- Founded in 1924, with the aim to develop and publish standard procedures in the field of seed testing. ISTA is inextricably linked with the history of seed testing. With member laboratories in over 70 countries/distinct economies worldwide, ISTA membership is truly a global network.
- Vision
- Uniformity in seed quality evaluation worldwide

Mission

- ISTA members work together to achieve their vision of 'Uniformity in seed quality evaluation worldwide'. Our Association produces internationally agreed rules for seed sampling and testing, accredits laboratories, promotes research, provides international seed analysis certificates and training, and disseminates knowledge in seed science and technology. This facilitates seed trading nationally and internationally, and also contributes to food security.

1.51. Jal Shakti Abhitaan

- The Centre is set to initiate the Jal Shakti Abhiyan to ramp up rainwater harvesting and conservation efforts in 255 water-stressed districts of the country.
- Rural Development Ministry.
2. History

To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2
- Video 3
- Video 4

2.1. Srirangam Ranganathaswamy Temple Tiruchirapalli

In news

- Won the UNESCO Award of Merit
- Awarded by UNESCO Asia Pacific region for the reconstruction activities undertaken in temple without affecting its traditional splendor

About the Temple

- A temple at Srirangam is mentioned in Tamil literature of the Sangam era (1st to the 4th century CE), including the epic Silapadikaram
- It is dedicated to Ranganatha, a reclining form of Vishnu
- It is built in Dravidian style of architecture
- This temple is glorified by Alvars in their Divya Prabhanda and is the foremost among the 108 Divya Desams (108 Vishnu temples that are mentioned in Nalayira Divya Prabandham) dedicated to Vishnu.
- It was one of the hubs of early Bhakti movement with a devotional singing and dance tradition
- The temple was looted and destroyed by the Delhi Sultanate armies in a broad plunder raid on various cities of the Pandyan kingdom in early 14th century.
- The temple and 1000 pillared hall were constructed in the Vijayanagar period in late 14th century.
- Its Gopuram, also called as —Raja Gopuram, is the biggest gopuram in Asia.
- It annually hosts 21-day festival during the Tamil month of Margazhi (between December and January)
- The temple complex has been nominated as a UNESCO World Heritage Site, and is in UNESCO's tentative list.
- The inscriptions in the temple belong to the Chola, Pandya, Hoysala and Vijayanagar dynasties who ruled over the region.
- Thousand Pillar Mandapam is a theatre like structure made from granite.
- Sesharaya Mandapam is the intricately carved hall. It has 40 leaping animals with riders on their back, all carved out of monolithic pillars
Garuda Mandapam is named after the vahana (vehicle) of Vishnu, named Garuda. Inside the community hall, on its pillars, are portrait sculptures.

Kili Mandapam is found inside the innermost (first) prakaram courtyard.

Ranga Vilasa Mandapam is one of the larger community halls designed for large spaces between the pillars for the pilgrim groups and families to sit together and rest. It is covered with Hindu mythology murals and narratives from the Ramayana.

2.2. Losar Bahubali, Khajuraho

Losar is characterized especially by dancing, music, and a general spirit of merrymaking.

The celebrations are an amalgamation of ancient rituals, staged dance dramas, the dance of the Ibex deer and lots of music, dance, and revelry for the people.

Houses are decorated with good-luck signs.

Prayer flags are hoisted in important religious places to welcome the New Year.

The auspicious images of the Ibex deer and other symbols are made on the door, walls of the kitchen and wooden columns to welcome the New Year.

Losar is marked with ancient ceremonies that represent the struggle between good and evil.

Metho Ceremony – where hundreds of people carrying flaming torches and chanting prayers parade through the streets to chase away evil spirits and hungry ghosts.

The Gumpa dance is a special dance celebrated around the time of Losar, the Tibetan New Year.

Bahubali

Located on the Vidyagiri hills at the Jain pilgrimage site of Shravanabelagola near Bangalore

It is a 57-feet monolithic statue of the Jain God Bahubali or Gomateshwara Every 12 years, this piece of Jain craftsmanship is visited by thousands of pilgrims from around the world for a ceremony known as the Mahamastak abhisheka, or the anointing of the statue in the presence of Jain acharyas.

The Gomateshwara at Shravanabelagola was built in 983 CE. It is known to have been commissioned by the ruler and minister of the Ganga dynasty, zChamunda-Raya.

In any case, a large number of inscriptions at the site give references to Chamunda-Raya being the one who brought to the public notice the Gomateshwara statue and also arranged for its anointment.

Chamunda-Raya did not just install the Gomateshwara statue at Shravanabelagola but also performed the great ceremony of consecration of the image on March 13, in 981 CE.

The event was carried out in the precise manners prescribed in the Jain scriptures and in the scale and grandeur befitting the enormity of the image.

Jain mythology holds up Bahubali as the one who succeeded in attaining liberty from worldly desires through a long period of sustained meditation. During this time, climbing plants grew around his legs.

After his period of meditation, Bahubali is said to have attained omniscience (complete understanding or supreme wisdom)
Kevala jnana is believed to be an intrinsic quality of all souls. This quality is masked by karmic particles that surround the soul. Every soul has the potential to obtain omniscience by shedding off these karmic particles.

The story of Bahubali, though varied in detail, is that of a ruler who won against his brother and was filled with grief over his actions and therefore abandoned his possessions and kingdom in search of omniscience.

The Jain poet Bopanna wrote of him as the one who “gave back the whole earth though he had completely conquered it”.

His story is narrated in Sanskrit texts like the Adi Purana and the Bahubali Kannada literary texts and poems.

2.3. Khajuraho Temples

It is a group of Hindu and Jain Temples in Madhya Pradesh built by CE.

They are UNESCO World Heritage Site.

The temples are famous for their nagara-style architectural symbolism.

The temples at Khajuraho are all made of Sandstone.

Historical records note that the Khajuraho temple site had 85 temples by the 12th century. Of these, only about 25 temples have survived.

Of the surviving temples, the Kandariya Mahadeva Temple intricate details, symbolism and expressiveness of ancient Indian art.

It’s the largest temple at Khajuraho and is attributed to

All the towers or shikhara of temple rise high, upward in a curved pyramidal fashion, emphasizing temple’s vertical thrust ending in horizontal fluted disc called Amalaka topped with Kalasha or vase.

Khajuraho is one of the four holy sites linked to the deity Chandela Dynasty between 950 and 1050 and their erotic sculptures.

The temple site is within the Vindhya mountain range in central India.

The temples are clustered near water, a typical feature of Hindu temples.

All temples, except one (Chaturbhuj), face sunrise - another symbolic feature that is predominant in Hindu temples.

Of the surviving temples, six are dedicated to Shiva and his consorts Ganesha, one to Sun god, three to Jain Tirthankars.

The territory is laid out in three triangles that converge to form a pentagon

The temples have a rich display of intricately carved statues. While they are famous for their erotic sculpture, sexual themes cover less than 10% of the temple sculpture.

The arts cover numerous aspects of human life and values considered important in the Hindu pantheon.
Khajuraho Dance Festival is an annual cultural festival that highlights the richness of various Indian classical dance styles.

The 6-day festival showcased classical dances including Kathak, Odissi, Bharatnatyam, Kuchipudi, Kathakali and Mohiniattam.

### 2.4. Jagannath Temple

- The Shree Jagannath Temple of Puri is an important Hindu temple dedicated to Lord Jagannath, a form of lord Maha Vishnu
- Built by the Ganga dynasty king Anantavarman Chodaganga in the 12th century CE, as suggested by the Kendupatna copper-plate inscription of his descendant Narasimhadeva II.
- The temple complex was further developed during the reigns of the subsequent kings, including those of the Ganga dynasty and the Suryavamshi (Gajapati) dynasty.
- Jagannath, Balabhadra and Subhadra are a trio of deities worshipped at the temple.
- These three, constitute the basic and fundamental Trinity and are considered to be the forms and manifestations of the omni-present, omni-scient and omni-potent supreme power.
- Sudarsan who is supposed to be the fourth important divine manifestation is also worshipped with the celebrated trio and these four are known as the Chaturdha murti or the four-fold divine images.
- The inner sanctum of the temple contains statues of these three Gods carved from sacred neem logs known as daru sitting on the bejewelled platform or ratnabedi
- Worship of these deities pre-dates the building of the temple and may have originated in an ancient tribal shrine.
- The Puri temple is built on a gigantic raised platform in the heart of the city
- There are four gates, facing the four directions.
- On the east-facing gate, there are stone images of two lions and it is called the Lions Gate. The north, south and west facing gates are similarly known as the Elephant Gate, the Horse Gate and the Tiger Gate (also called the Khanja Gate) respectively.
- The north gate is mainly meant for the God himself in as much as, the logs of wood out of which, the images are fabricated, make their entry into the temple premises through this gate
- In front of the Eastern gate (Lions Gate), we see a monolithic pillar about 10 meters high.
- This pillar is known locally as the Aruna Stambha.
  - In Hindu mythology Aruna is the the charioteer of the Sun-god, The world famous Konarka temple was designed in the form of a stupendous chariot and this monolithic pillar with the beautifully carved Aruna seated on its top was installed right in front of the porch of that temple.
  - When the temple was abandoned and there was no presiding deity in it, this pillar was removed from Konarka to Puri and was fixed in front of Jagannatha temple.
• The Jagannath triad are usually worshiped in the sanctum of the temple at Puri, but once during the month of Asadha (Rainy Season of Orissa, usually falling in month of June or July), they are brought out onto the Bada Danda (main street of Puri) and travel (3 km) to the Shri Gundicha Temple, in huge chariots (ratha), allowing the public to have darsana (Holy view). This festival is known as Rath Yatra, meaning the journey (yatra) of the chariots (ratha).

• The huge chariots of Jagannath pulled during Rath Yatra is the etymological origin of the English word Juggernaut. The Ratha-Yatra is also termed as the Shri Gundicha Yatra.

• One of the most grandiloquent events associated with the Lord Jagannath, Nabakalabera takes place when one lunar month of Ashadha is followed by another lunar month of Aashadha.
  ✓ This can take place in 8, 12 or even 18 years.
  ✓ Literally meaning the "New Body" (Nava = New, Kalevar = Body)

• The event involves installation of new images in the temple and burial of the old ones in the temple premises

• The three deities came to be claimed as the symbols of Samyak Darshan, Samyak Jnana and Samyak Charita usually regarded as Triratha (of the Jain cult), an assimilation of which leads to Moksha (salvation) or the ultimate bliss

• Jagannath is worshipped as Vishnu or Narayana or Krishna and Lord Balabhadra as Shesha.

• (In Hinduism, Shesha, also known as Sheshanaga, is the nagaraja or king of all nāgas and one of the primal beings of creation. Vishnu is often depicted as resting on Shesha. Shesha is considered a servant and a manifestation of Vishnu.)

• Simultaneously, the deities are regarded as the bhairava with Vimala (the devi or the consort of Shiva) installed in the campus of the temple. So ultimately we find a fusion of Saivism, Shaktism and Vaishnavism of the Hindu religion with Jainism.

• The temple is one of the holiest Hindu Char Dham (four divine sites) sites comprising Rameswaram, Badrinath, Puri and Dwarka.

• The Nila Chakra (Blue Discus) is the discus mounted on the top shikhar of the Jagannath Temple.

• The Singahdwara, which in Sanskrit means The Lion Gate, is one of the four gates to the temple and forms the Main entrance. The Singhadwara is so named because two huge statues of crouching lions exist on either side of the entrance.

• The statues of the two guards to the temple Jaya and Vijaya stand on either side of the doorway. Just before the commencement of the Rath Yatra the idols of Jagannath, Balabhadra and Subhadra are taken out of the temple through this gate.

• (Jaya and Vijaya are the two gatekeepers (Dwarapalaka) of the abode of Vishnu, known as Vaikuntha (meaning place of eternal bliss))

• The other entrances are the Hathidwara or the Elephant Gate, the Vyaghradwara or the Tiger Gate and the Ashwadwara or the Horse Gate.
There are many Mandapas or Pillared halls on raised platforms within the temple complex meant for religious congregations. The most prominent is the Mukti Mandapa the congregation hall of the holy seat of selected learned Brahmans.

2.5. Madhubani Paintings

- The painting was traditionally done on freshly plastered mud walls and floors of huts.
- Madhubani paintings are made from the paste of powdered rice.
- Colours derived from turmeric, pollen, pigments, indigo, various flowers, sandalwood, and leaves of various plants and trees, etc.
- The knowledge was passed down from generation to generation and the paintings began to adorn the houses of the region.
- The women of the village practiced these paintings on the walls of their respective home.
- Their paintings often illustrated their thoughts, hopes and dreams.
- Over time, Madhubani paintings became a part of festivities and special events like weddings.
- The traditional base of plastered mud wall was soon replaced by handmade paper, cloth and canvas.
- Madhubani painting has remained confined to a compact geographical area and the skills have been passed on through centuries, the content and the style have largely remained the same. For this reason,
  ✓ Madhubani painting being accorded the coveted GI (Geographical Indication) status.
  ✓ The themes as well as the style are more or less, the same.
- This painting as a form of wall art was practiced widely throughout the region; the more recent development of painting on paper and canvas mainly originated among the villages around Madhubani, and it is these latter developments led to the name Madhubani art being used alongside the name “Mithila Painting.”

Madhubani Paintings – Themes

- The themes used in these paintings often revolve around Hindu deities like Krishna, Rama, Lakshmi, Shiva, Durga and Saraswati. Heavenly bodies like the Sun and the Moon often form the centerpiece of Madhubani paintings. One can also find paintings based on the scenes from the royal courts and social events like weddings.
The usage of geometrical patterns is pretty much apparent in these paintings. Madhubani paintings mostly depict the man & its association with nature and the scenes & deity from the ancient epics. Religious plants like tulsi are also widely painted. Generally, no space is left empty; the gaps are filled by paintings of flowers, animals, birds, and even geometric designs.

2.6. Adilabad Dhokra Warangal Dhurries Monument Mitras

Adilabad Dhokra (Dokra)

- A form of ancient bell metal craft; Practiced by Woj community (commonly referred to as Wojaris or Ohjas in the rural areas of Telangana); Native to Adilabad district of Telangana.
- They use ancient casting technique called cire perdue (lost wax casting technique), a technique wherein duplicate metal sculpture is cast from an original sculpture.
- The craftsmen use clay and design a model of the sculpture that they want to create. They wrap the clay with wax threads before baking the mould, so that the wax melts away and the molten metal is poured into the mould.
- Only 100-odd families are currently involved in the creation of this hereditary craft.
- The craftsmen mostly indulge in creation of metal casting products like idols of local deities, dancing figures, bells, jewellery, statues and many other decorative items.
- Apart from these, they also makes figures of animals and birds, and jewels.
- The uniqueness of this art form is that no two sculptures are the same, as they are not made out of a pre-designed cast.
- They use brass as their main material
- Dhokra craft tradition has the amazing feature that the pieces are crafted out of a single piece of metal and have no joints.
- The technique of lost wax casting is being practiced in India for more than 4000 years and even to this day, it is in use by these craftsmen.
- The method of making Dokra is done by combining the metallurgical skills with that of the lost wax technique.

Warangal Dhurries

- Dhurries is popular traditional thick cotton rug in which weavers create beautiful patterns and dye them using vegetable colours, which are washed in flowing water after the printing process.
- Warangal district became a renowned hub for weaving these rugs due to the availability of cotton, which is grown by farmers in the area.
- There are reportedly more than 2,000 weavers in Telangana whose products are being exported across the world.
- The shatranji carpets and jainamaaz prayer mats made in Warangal range in size from the smallest 2 feet by 3 feet to a massive 60 feet by 90 feet, examples of which are seen in some museums.
• Bright colours, geometrically repetitive patterns and interlocking zigzag motifs in cotton and jute are the signature styles of the carpets.

• One of the newest innovations by the weavers here is an adaptation of tie-dyed ikat techniques and hand-painted or block-printed kalamkari designs for the dhurries to save time and energy.

• Warangal dhurries are known for their geometrically repetitive patterns and zigzag motifs.

### 2.7. GI Tags

• The registration of a GI is valid for 10 years after which it needs to be renewed.

• Violation of GI tags is punishable offence under law.

• Other GI Tags in Telangana

  ✓ The Silver Filigree of Karimnagar

  ✓ Hyderabadi Haleem

  ✓ Narayanpet Handloom Sarees

  ✓ Pochampally Ikat

  ✓ Pembarthi Metal Craft

  ✓ The famous ‘Hyderabadi biriyani’ DID NOT get a GI tag, as it could not prove its historical origin.

**GI Tags in Andhra**

• The famous ‘Tirupati laddu’ offered as prasadam at the Sri Venkateshwara temple atop Tirumala already enjoys the GI tag,

  ✓ Banganapalle mango

  ✓ Durgi stone carvings

  ✓ Andhra Pradesh Leather Puppetry

  ✓ Guntur Sannam Chilli

  ✓ Etikoppaka Toys

### 2.8. Adopt a Heritage

• Apni Dharohar, Apni Pehchaan’ scheme is an initiative of the Ministry of Tourism, in collaboration with the Ministry of Culture and the Archaeological Survey of India.

• It was launched in September 2017 on World Tourism Day

• Under it, the government invites entities, including public sector companies, private sector firms as well as individuals, to develop selected monuments and heritage and tourist sites across India.

• It entails providing and maintaining basic amenities, including drinking water, ease of access for the differently abled and senior citizens, standardized signage, cleanliness, public conveniences and illumination, along with advanced amenities such as surveillance systems, night-viewing facilities and tourism facilitation centers.
• The sites/monument are selected on the basis of tourist footfall and visibility and can be adopted by private and public sector companies and individuals — known as Monument Mitras — for an initial period of five years.

• The Monument Mitras are selected by the 'oversight and vision committee,' co-chaired by the Tourism Secretary and the Culture Secretary, on the basis of the bidder’s ‘vision’ for development of all amenities at the heritage site.

• There is no financial bid involved.

• The corporate sector is expected to use corporate social responsibility (CSR) funds for the upkeep of the site.

• The project would begin with 83 ASI ticketed monuments and would be expanded to other natural and cultural sites across India. The heritage sites are classified into various categories.

• The Monument Mitras are responsible for operation and maintenance and development/upgradation of tourist amenities, in the non-core areas of the monument.

• At present, 11 Memorandum of Understanding (MoU’s) have been signed with the Monument Mitras.

<table>
<thead>
<tr>
<th>Monument Mitra</th>
<th>Name of Monument/Heritage Intervention</th>
<th>Site/Tourist Site</th>
<th>Site or Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>M/s Dalmia Bharat Ltd.</td>
<td>Red Fort, Delhi</td>
<td></td>
<td>Green</td>
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<tr>
<td>M/s Dalmia Bharat Ltd.</td>
<td>Gandikota Fort, Andhra Pradesh</td>
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<td>Orange</td>
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<tr>
<td>Adventure Tour Operators Association of India (ATOAI)</td>
<td>Area surrounding Gangotri Temple and Trail to Gaumukh, Uttarakhand</td>
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<td>Orange</td>
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<tr>
<td>Adventure Tour Operators Association of India (ATOAI)</td>
<td>Mt. Stok Kangri Trek, Ladakh, Jammu and Kashmir</td>
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<tr>
<td>Yatra Online</td>
<td>Qutub Minar, Delhi</td>
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<td>Yatra Online</td>
<td>Leh Palace, Jammu &amp; Kashmir</td>
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<td>Yatra Online</td>
<td>Ajanta Caves, Maharashtra</td>
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<td>Yatra Online</td>
<td>Hampi (Hazara Rama Temple), Karnataka</td>
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<tr>
<td>M/s Bliss India Pvt. Ltd. (V-Resorts)</td>
<td>Surajkund, Haryana</td>
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<td>Orange</td>
</tr>
<tr>
<td>M/s Apeejay Surrendra Park Pvt. Ltd.</td>
<td>Jantar Mantar, Delhi</td>
<td></td>
<td>Orange</td>
</tr>
<tr>
<td>M/s Resbird Technologies Pvt. Ltd.</td>
<td>Development of Multi-lingual Audio Guide Application for five iconic tourists sites which are listed below: Colva Beach, Goa; Amer Fort, Rajasthan; Kaziranga, Assam; Kumarakom, Kerala; Mahabodhi Temple, Bihar</td>
<td></td>
<td></td>
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</tbody>
</table>
3. Polity
To watch the following topics on YouTube click on the links given below:

- **Video 1**
- **Video 2**
- **Video 3**
- **Video 4**

### 3.1. BIMSTEC

- The leaders of the member states of BIMSTEC were invited to the swearing ceremony of PM Narendra Modi. It was regarded as a key aspect of India’s neighbourhood first and Act East policy.

- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation is what BIMSTEC stands for. Comprising of seven member states, it is a regional organization. India along with Bangladesh, Bhutan, Nepal, Sri Lanka, Myanmar and Thailand are the members. India along with Bangladesh, Bhutan, Nepal, Sri Lanka, Myanmar and Thailand are the constituent members. The permanent secretariat is in Dhaka.

- Five of its member-states are rim countries of the Bay of Bengal and two (Bhutan and Nepal) are landlocked countries, which never the less depend on the Bay of Bengal for access to maritime trade. Importantly, with the exception of India and Bhutan, the other BIMSTEC members are participating in China’s Belt and Road Initiative (BRI).

- On 6 June 1997, a new sub-regional grouping was formed in Bangkok under the name BIST-EC (Bangladesh, India, Sri Lanka, and Thailand Economic Cooperation).

- Following the inclusion of Myanmar on 22 December 1997 during a special Ministerial Meeting in Bangkok, the Group was renamed BIMST-EC (Bangladesh, India, Myanmar, Sri Lanka and Thailand Economic Cooperation). In 1998, Nepal became an observer. In February 2004, Nepal and Bhutan became full members.

- On 31 July 2004, in the first Summit the grouping was renamed as BIMSTEC or the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation. BIMSTEC uses the alphabetical order for the Chairmanship. The Chairmanship of BIMSTEC has been taken in rotation commencing with Bangladesh (1997–1999).

- The 18-point Kathmandu Declaration of 4th Summit is expected to enhance the effectiveness of BIMSTEC Secretariat by engaging it in various technical and economic activities in the region. During the Summit, foreign ministers of BIMSTEC member countries signed a Memorandum of Understanding on the Establishment of BIMSTEC Grid Interconnection.
3.2. Digital Dilemma

- Academy of Motion Picture Arts & Sciences (popularly known as Oscar Academy), e-launched the Hindi translation of an Academy Publication, "Digital Dilemma", in Delhi with National Film Archive of India.

- There are many challenges thrown by the technological changes in the film storage medium and this book will help film makers in understanding and planning the storage of born-digital material. National Film Archive of India, the premier organization of Ministry of Information and India, the premier organization of Ministry of Information and Broadcasting which is involved in film conservation, preservation and restoration.

- In its landmark report, the Academy’s Science and Technology Council examined ways in which key players in the movie business currently store and access important digital data. Through years of research, the Council discovered that issues of digital storage reliability go far beyond lost snapshots and spreadsheets. The publication discusses the challenges of efficiently archiving and accessing the massive data.

3.3. Merger of CSO and NSSO

- Commission under Chairpersonship of Dr. C. Rangarajan, recommended for the creation of National Statistical Office (NSO) to be headed by a National Statistician, with appropriate autonomy and independence for producing Official Statistics as is prevalent in other countries.

- It would have worked under the National Statistical Commission (NSC), which was to be answerable to Parliament, not the government. The intent was to clean up collection, calculation and dissemination of the intent was to clean up collection, calculation and dissemination of data. NSC was set up in June 2005, but didn’t have a statutory role. It was given supervisory powers over one arm of the statistical system, NSSO. The idea of an NSO that would include NSSO and CSO was not effected.

- The Government, while accepting the recommendations, approved the establishment of NSO to be headed by Chief Statistician of India by merging the then Central Statistical Organisation (CSO) and National Sample Survey Organisation (NSSO) to form the NSO The order puts the entity under MoSPI secretary.

- The government had set up the NSC through a resolution on June 1, 2005. The setting up of the NSC followed the decision of the Union Cabinet to accept the recommendations of the Rangarajan Commission, which reviewed the Indian Statistical System in 2001.

- The NSC was constituted on July 12, 2006 with a mandate to evolve policies, priorities and standards in statistical matters. The NSC has four Members besides a Chairperson, each having four Members besides a Chairperson, each having specialization and experience in specified statistical fields.

- The CSO headed by a DG brings out macro economic data like economic (GDP) growth data, industrial production and inflation.

- The NSSO conducts large-scale surveys and brings out reports on health, education, household expenditure and other social and economic indicators. The NSSO and the CSO were functioning independently.
In May, the NSSO came out with a report which cast serious doubt on the reliability of raw data that is used to calculate India's gross domestic product (GDP). The NSSO stated that it could not either trace or classify 38.7% of the companies included in the MCA-21, a database of private companies that is maintained by the Ministry of Corporate Affairs, whose financial numbers the government currently uses to calculate financial numbers the government currently uses to calculate GDP figures.

Earlier in January this year, two non-governmental members of the NSC PC Mohanan and JV Meenakshi had put in their papers because they were reportedly disappointed over the way the government had sidelined them.

3.4. Election on more than one seat

Under the Constitution, an individual cannot simultaneously be a member of both Houses of Parliament (or a state legislature), or both Parliament and a state legislature, or represent more than one seat in a House.

With regard to the Houses of Parliament, if a person is elected simultaneously to both Rajya Sabha and Lok Sabha, and if elected simultaneously to both Rajya Sabha and Lok Sabha, and if he has not yet taken his seat in either House, he can choose, within 10 days from the later of the dates on which he is chosen to those Houses, the House of which he would like to be a member. [Article 101(1) of the Constitution read with Section 68(1) of The Representation of the People Act, 1951]

The member must intimate his choice in writing to the Secretary to the Election Commission of India (ECI) within the 10-day window, failing which his seat in Rajya Sabha will fall vacant at the end of this period. [Sec 68(2), RPA 1951]. The choice, once intimated is final. [Sec 68(3), RPA, 1951]

No such option is, however, available to a person who is already a member of one House and has contested the election for membership of the other House. So, if the same applies to a for membership of the other House. So, if. The same applies to a Lok Sabha member who contests an election to Rajya Sabha a sitting Rajya Sabha member contests and wins a Lok Sabha election, his seat in the Upper House becomes automatically vacant on the date he is declared elected to Lok Sabha. [Sec 69 read with Sec 67A, RPA 1951]. ECI issues the ‘Due Constitution’ notification for the new Lok Sabha under Sec 73 of the RPA 1951.

Under Sec 33(7) of RPA, 1951, an individual can contest from two parliamentary constituencies but, if elected from both, he has to resign one seat within 14 days of the declaration of the result, failing which both his seats shall fall vacant. [Sec 70, RPA, 1951 read with Rule 91 of the Conduct of Elections Rules, 1961].

Under Article 101(2) of the Constitution (read with Rule 2 of the Prohibition of Simultaneous Membership 2 of the Prohibition of Simultaneous Membership Rules, 1950, made by the President under this Article) members of state legislatures who have been elected to Lok Sabha must resign their seats within 14 days “from the date of publication in the Gazette of India or in the Official Gazette of the State, whichever is later, of the declaration that he has been so chosen”, failing which their seats in Lok Sabha shall automatically fall vacant.
3.5. OIC and India

- India has “categorically rejected” the “unacceptable reference” to Jammu and Kashmir by the Organisation of Islamic Cooperation (OIC) at its Summit meeting at Mecca, Saudi Arabia. OIC headquarters are at Jeddah, Saudi Arabia.

- The Final Communique of the 14th Islamic Summit Conference in Mecca, Saudi Arabia, “reaffirmed its principled support for the people of Jammu and Kashmir for the realization of their legitimate right to self-determination, in accordance with relevant resolutions”.

- OIC is an international organization founded in 1969, consisting of 57 member states, with a collective population of over 1.8 billion as of 2015 with 53 countries being Muslim-majority countries. It has permanent delegations to the United Nations and the European Union.

- For the first time in five decades, the United Arab Emirates invited former foreign minister of India Sushma Swaraj to attend the inaugural plenary 46th meeting of OIC foreign ministers held in Abu Dhabi on 1 and 2 March overruling strong objections by Pakistan. Pakistan boycotted the meet objecting to the invitation to India. Swaraj addressed the meet raising concern for spreading terrorism.

3.6. Draft National Education Policy, 2019

- The draft National Education Policy 2019 witnessed a lot controversy due to what was seen as an imposition of Hindi language. The existing NEP was framed in 1986 and revised in 1992.

- The Draft Policy was prepared by a committee headed by Dr. K. Kasturirangan drawing inputs from the earlier T.S.R. Subramanian Committee report. The Draft Policy is built on foundational pillars of Access, Equity, Quality, Affordability & Accountability. Key point so the draft include:

- It proposes the creation of several new bodies to overlook different facets of education. For one, there is a suggestion for a new apex body National Higher Education Regulatory Authority/Rashtriya Shiksha Ayog to implement educational initiatives and programmatic interventions and to coordinate efforts between the Centre and states. It further suggests that it should be the only regulator for all higher education including professional education.

- Another apex body National Research Foundation is proposed for building research capacity across higher education.

- In school education, one idea is to cover children of 3-18 years [instead of the present 6-14 years under the Right to Education (RTE) Act], three years under early childhood care and education (ECCE) and four years under secondary education.

- The draft education policy also said that the popularity of English in the country is due to the adoption of the language by the ‘economic elite’.

- The earlier draft education policy proposed English and Hindi as mandatory languages in non-Hindi speaking states as well as a third language for Hindi speaking states. Following the proposal, there was public outcry in Southern states.
The three-language formula, dating back to 1968, means students in Hindi-speaking states should learn a modern Indian language, apart from Hindi and English and, in non-Hindi-speaking states, Hindi along with the regional language and English. Tamil Nadu has always opposed this policy, and the new row is over the draft NEP proposing its continuation.

After protests, the revised version states: "In keeping with the principle of flexibility, students who wish to change one or more of the three languages they are studying may do so in Grade 6 or Grade 7, so long as they are able to still demonstrate proficiency in three languages (one language at the literature level) in their modular Board Examinations some time during secondary school."

3.7. Recognition of Parties in India

Last week, Meghalaya's National People's Party led by Conrad Sangma, was recognised as a "national party". The NPP is the eighth party to get that recognition — after Congress, BJP, BSP, NCP, CPI, CPI(M) and Trinamool Congress — and the first from the Northeast.

The Election Commission lists political parties as “national party”, “state party” or “registered (unrecognised) party”. The conditions for being listed as a national or a state party are specified under the Election Symbols (Reservation and Allotment) Order, 1968. A party has to satisfy any one of a number of the seconditions.

For recognition as a national party, the conditions specified under Paragraph 6B of the 1968 Order are:

✓ a 6% vote share in the last Assembly polls in each of any four states, as well as four seats in the last Lok Sabha polls; or

✓ 2% of all Lok Sabha seats in the last such election, with MPs elected from at least three states; or

✓ recognitions state party in at least four states.

The NPP has satisfied the last of these conditions. It is recognised as a state party in four states — Arunachal Pradesh, Manipur and Nagaland, besides Meghalaya. It has earned that recognition by fulfilling different conditions in different states.

For recognition as a state party, any one of five conditions needs to be satisfied. These are specified under paragraph 6A of the Order:

✓ two seats plus a 6% vote share in the last Assembly election in that state; or

✓ one seat plus a 6% vote share in the last Lok Sabha election from that state; or

✓ 3% of the total Assembly seats or 3 seats, whichever is more; or

✓ one of every 25 Lok Sabha seats (or an equivalent fraction) from a state; or

✓ an 8% state-wide vote share in either the last Lok Sabha or the last Assembly polls.

Once recognised as a national or a state party, a political party retains that status irrespective of its performance in the next elections. It loses the given status only if it fails to fulfil any of the conditions for two successive Assembly and two successive Lok Sabha elections.
• The recognition granted by the Commission to the parties determines their right to certain privileges like allocation of the party symbols, provision of time for political broadcasts on the state-owned television and radio stations and access to electoral rolls.

• Further, the recognized parties need only one proposed for filing the nomination. Also, these parties are allowed to have forty “star campaigners” during the time of elections and the registered–unrecognized parties are allowed to have twenty “star campaigners”. The travel expenses of these star campaigners are not included in the election expenditure of the candidates of their parties.

• Every national party is allotted a symbol exclusively reserved for its use throughout the country. Similarly, every state party is allotted a symbol exclusively reserved for its use in the state or states in which it is so recognised. A registered-unrecognized party, on the other hand, can select a symbol from a list of free symbols.

3.8. Jal Shakti Ministry

• Fulfilling its poll promise, the government has launched a new unified ‘Jal Shakti’ ministry that is aimed at providing clean drinking water as well as fight India’s water woes.

• The new ministry has been formed by merging the Ministry of Water Resources, River Development and Ganga Rejuvenation and Ministry of Drinking Water and Sanitation headed by Gajendra Singh Shekhawat.

• The mandate of the newly-formed Jal Shakti Ministry will go much beyond bringing previous ministries of water resources and drinking water and sanitation under one umbrella. It will attempt to integrate demand side and supply side of water in the country so that the issues relating to water are dealt with in a holistic manner.

• To increase piped water coverage from the existing low 18 per cent to 100 per cent coverage by 2024, the Centre has requested all states to adopt an approach similar to the newly-formulated Jal Shakti Ministry that integrates all ministries and bodies dealing with water under one umbrella.

• There are several other Central ministries that deal with water in a piecemeal manner. For instance, the Ministry of Forest and Environment is entrusted with conservation of most rivers in the country.

✓ Similarly, urban water supply is looked after by the Ministry of conservation of most rivers in the country.

✓ Similarly, urban water supply is looked after by the Ministry of Housing and Urban Affairs and micro-irrigation projects come under the Ministry of Agriculture.

• In the Constitution, water is included as Entry 17 on List II that is the State List. This entry is subject to the provision of Entry 56 of List-I i.e. Union List which enables the Union to deal with inter-State rivers if Parliament legislates for the purpose.

3.9. Creation of Ministries/Departments

• The Government of India (Allocation of Business) Rules, 1961 is made by the President of India under Article 77 of the Constitution for the allocation of business of the Government of India.

• The Ministries/Departments of the Government of India are created by the President on the advice of the Prime Minister under these Rules.
The business of the Government of India are transacted in the ministries/departments, secretariats and offices (referred to as "Department") as per the distribution of subjects specified in these Rules.

Each of the Ministry (ies) will be assigned to a Minister by the President on the advice of the Prime Minister.

Each department will generally be under the charge of a Secretary to assist the Minister on policy matters and general administration.

The Cabinet Secretariat is responsible for secretarial assistance to the Cabinet, its committees and ad hoc Groups of Ministers, and for maintenance of record of their decisions and proceedings. The Secretariat monitors implementation of the decisions/directions of the Cabinet/Cabinet Committees/groups of ministers. The Secretariat is also responsible for the administration of the Government of India (Transaction of Business) Rules, 1961 and facilitates smooth transaction of business in ministries/departments of the Government by ensuring adherence to these Rules.

3.10. Reconstitution of Cabinet Committees

Under the Transaction of Business Rules, the Government has reconstituted Cabinet Committees. These include:

- Appointments Committee of the Cabinet, Cabinet Committee on Accommodation, Cabinet Committee on Economic Affairs, Cabinet Committee on Parliamentary Affairs, Cabinet Committee on Political Affairs, Cabinet Committee on Security, and two new ones - Cabinet Committee on Investment and Growth and Cabinet Committee on Employment and Skill Development.

In terms of the TBR, 1961, inter-alia, there shall be “Standing Committees of the Cabinet” as set out in the First Schedule to the TBR, 1961, with the functions specified therein.

The Prime Minister may, from time to time, amend the Schedule by adding to or reducing the numbers of such Committees or by modifying the functions assigned to them. Every Standing Committee shall consist of such Ministers as the Prime Minister may from time to time specify. Conventionally, while Ministers with Cabinet rank are named as ‘members’ of the Standing Committees of the Cabinet, Ministers of State, irrespective of their status of having ‘Independent Charge’ of a Ministry/Department, and others ‘with rank of’ a Cabinet Minister or Minister of State are named as ‘special invitees’.

The Second Schedule to TBR 1961, lists the items of Government business where the full Cabinet, and not any Standing Committee of the Cabinet should take a decision.

However, to the extent there is a commonality between the cases enumerated in the Second Schedule and the cases set out in the First Schedule, the Standing Committees of the Cabinet shall be competent to take a final decision in the matter, except in cases where the relevant entries in the respective Schedules themselves preclude the Committees from taking such decisions. Also, any decision taken by a Standing Committee may be reviewed by the Cabinet.
3.11. Foreigners Tribunals

- The Foreigners (Tribunals) Order, 1964 was issued by the Central Government under Section 3 of The Foreigners Act, 1946. It is applicable to the whole country. Major amendments in the Foreigners (Tribunals) Order, 1964 were undertaken in 2013. The last amendment was issued in May 2019. All these orders are applicable to the whole country and are not specific to any state.

- The May 2019 amendment only lays down the modalities for the Tribunals to decide on appeals made by persons not satisfied with the outcome of claims and objections filed against the NRC.

- Since NRC work is going on only in Assam, therefore, the aforementioned Order, issued on 30th May 2019 is applicable only to Assam as on date for all practical purposes. This Amendment Order also provides for reference by District Magistrate to the Tribunal for its opinion as to whether the Appellant is a "foreigner" or not within the meaning of the Foreigners Act, 1946.

- The amended order also allows District Magistrates to refer individuals who haven’t filed claims against their exclusion from NRC to the Tribunals to decide if they are foreigners or not.

- The MHA has amended the Foreigners (Tribunals) Order, 1964, and has empowered district magistrates in all States and Union Territories to set up tribunals to decide whether a person staying illegally in India is a foreigner or not. Earlier, the powers to constitute tribunals were vested only with the Centre.

- Recently, the MHA sanctioned around 1,000 Tribunals, which are quasi-judicial bodies, to be set up in Assam in the wake of the publication of the final NRC by July 31. As per the directions of the Supreme Court, the Registrar General of India (RGI) published the final draft list of NRC on July 30 last year to segregate Indian citizens living in Assam from those who had illegally entered the State from Bangladesh after March 25, 1971.

- The amended Foreigners (Tribunal) Order, 2019 also empowers individuals to approach the Tribunals. Earlier only the State administration could move the Tribunal against a suspect, but with the final NRC about to be published and to give adequate opportunity to those not included, this has been done. If a person doesn’t find his or her name in the final list, they could move the Tribunal.

3.12. Article 21 and issue of Social media posts

- The Supreme Court on Tuesday ordered the immediate release of journalist Prashant Kanojia on bail in the issue of having shared on social media a video of a woman claiming she had sent a marriage proposal to Uttar Pradesh Chief Minister Yogi Adityanath.

- The hearing on Tuesday was based on the habeas corpus petition moved by Mr. Kanojia's wife, Jagisha Arora, represented by advocate Nitya Ramakrishnan, under Article 32 of the Constitution. The ASG argued that a habeas corpus plea would not lie before the apex court as the accused had already been produced before the jurisdictional court and remanded in custody through a judicial order.

- But the court differed with the government, saying Article 32 enshrined a fundamental right. The Bench threatened to use its extraordinary powers under Article 142 of the Constitution to do complete justice in the Kanojia case.
Article 142 of the Constitution of India deals with Enforcement of decrees and orders of Supreme Court and unless as to discovery, etc. It states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it.

The Supreme Court (under Article 32) and the high courts (under Article 226) can issue the writs of habeas corpus, mandamus, prohibition, certiorari, and quowarranto.

Further, the Parliament (under Article 32) can empower any other court to issue these writs. Since no such provision has been made so far, only the Supreme Court and the high courts can issue the writs and not any other court.

Before 1950, only the High Courts of Calcutta, Bombay, and Madras had the power to issue the writs. Article 226 now empowers all the high courts to issue the writs. These writs are borrowed from English law where they are known as ‘prerogative writs'. They are so

Habeas Corpus- It is a Latin term which literally means ‘to have the body of'. It is an order issued by the court to a person who has detained another person, to produce the body of the latter before it. The court then examines the cause and legality of a detention. It would set the detained person free if the detention is found to be illegal.

Thus, this writ is a bulwark of individual liberty against arbitrary detention. The writ of habeas corpus can be issued against both public authorities as well as private individuals.

The writ, on the other hand, is not issued where the:

A. detention is lawful,
B. the proceeding is for contempt of a legislature or a court,
C. detention is by a competent court, and
D. detention is outside the jurisdiction of the court.

Called in England as they were issued in the exercise of the prerogative of the King who was, and is still, described as the ‘fountain of justice'. Later, the high court started issuing these writs as extraordinary remedies to uphold the rights and liberties of the British people.

3.13. Speaker and Pro-Tem Speaker in Lok Sabha

The Speaker of the Lok Sabha is the presiding officer of the Lok Sabha. The speaker is elected generally in the very first meeting of the Lok Sabha following general elections.

Serving for a term of five years, the speaker is chosen from sitting members of the Lok Sabha (House of the People) and is by convention a member of the ruling party or alliance.

MP’s propose a name to Pro tem speaker. These names are notified to the President of India. President through their aid Secretary-General notifies the election date. If only one name is proposed, Speaker is elected without any formal vote.

However, if more than 1 nominations are received. A division (vote) is called. MPs vote for their candidate on such date notified by President. The successful candidate is elected as Speaker of the Lok Sabha until the next general election.
The Deputy Speaker presides over the Lok Sabha when the Speaker is absent from the sitting of the House.

The Rules of Procedure and Conduct of Business in Lok Sabha provide that at the commencement of the House or from time to time, as the case may be, the Speaker shall nominate from amongst the Members a Panel of not more than ten Chairpersons, any one of whom may preside over the House in the absence of the Speaker and the Deputy Speaker when so requested by the Speaker or, in the absence of the Speaker, by the Deputy Speaker. A Chairperson so nominated holds office until a new Panel of Chairpersons is nominated unless he/she resigns earlier from the Panel or is appointed a Minister or elected as Deputy Speaker.

According to the Constitution of India, a Speaker is vested with immense administrative and discretionary powers, some of which are enumerated below:

- The Speaker presides over the meetings in the House. In other words, the business in the House is conducted by the Speaker, ensuring discipline and decorum amongst its members. He/she guards the rights and privileges of the members of the two Houses, deciding who should speak at what time, the questions to be asked, the order of proceedings to be followed, among others.

- A Speaker uses his/her power to vote, in order to resolve a deadlock. That is, when the House initiates a voting procedure, he does not cast a vote in the first instance. However, when the two sides receive an equal number of votes, the Speaker's vote is used to resolve the deadlock, making his position as impartial as in the English system of democracy.

- The Speaker of the Lok Sabha presides over a joint sitting of the two Houses of Parliament.

- Once a Money Bill is transmitted from the Lower House to the Upper House, the Speaker is solely responsible for endorsing his or her certificate on the Bill. In other words, he/she is given the pivotal power to decide whether any Bill is a Money Bill. This decision is considered final, and all procedures henceforth must be carried along accordingly.

- The Speaker has under his or her jurisdiction, a number of Parliamentary Committees such as the Rules Committee, the Business Advisory Committee, and the General Purposes Committee. The Speaker nominates the various Chairmen of these Committees, as well as looks into the procedural hindrances of the workings of these Committees if any.

- Besides heading the Lok Sabha, the Speaker is also the 'exofficio' President of the Indian Parliamentary Group. He/she also acts in the capacity of Chairman of the Conference of Presiding Officers of Legislative Bodies in India.

- As part of the Speaker's administrative role, he or she is the head of the Lok Sabha Secretariat, maintaining absolute security surveillance in the Parliament.

- The Speaker holds office during the life of the House, and once the House is dissolved, the Speaker's term of office ends. However, the Speaker can be re-elected to the post. The Speaker's office may, however, terminate earlier than the expiry of the House due to the following reasons:
  - When the Speaker ceases to be a Member of the House.
  - When the Speaker resigns by writing to the Deputy Speaker.
✓ When the Speaker is removed from office by a resolution that is passed by a majority of all the members of the House. While such a process is underway, the Speaker cannot preside over the House but can take part in the proceedings of the House.

Pro-Tem Speaker

- When the Offices of both the Speaker and the Deputy Speaker fall vacant, the duties of the Office of the Speaker are performed by such Member of the Lok Sabha as the President may appoint for the purpose. The person so appointed is known as the Speaker pro tem.

- Pro-tem is a Latin phrase that translates to 'for the time being' in English. Pro-tem speaker is the temporary speaker who presides over the first meeting of the lower House of Parliament after the general elections besides presiding over the sitting in which the Speaker and Deputy Speaker are elected if it is a newly constituted House.

- A pro-tem speaker is chosen with the agreement of the members of the Lok Sabha and legislative assembly. Usually, the senior-most member of the house is selected for the post, who then carries on the activities until the permanent speaker is chosen.

- The main duty of the pro-tem speaker is to administer the oath of office to new members of the house. He also enables the House to elect the new speaker.

- Once the new speaker is elected, the office of the pro-tem speaker ceases to exist. He also administers the floor test.


- It is a consolidating act whose scope is to regulate the acceptance and utilisation of foreign contribution or foreign hospitality by certain individuals or associations or companies and to prohibit acceptance and utilisation of foreign contribution or foreign hospitality for any activities detrimental to the national interest and for matters connected therewith or incidental thereto.

- It is designed to correct shortfalls in the predecessor act of 1976. In terms of FCRA, 2010 "person" includes – (i) an individual; (ii) a Hindu undivided family; (iii) an association; and (iv) a company registered under section 25 of the Companies Act, 1956.

- Contributions made by a citizen of India living in another country (i.e., Non-Resident Indian), from his personal savings, through the normal banking channels, is not treated as foreign contribution.

3.15. SVEEP

- SVEEP or Systematic Voters’ Education and Electoral Participation program, is the flagship program of the Election Commission of India for voter education, spreading voter awareness and promoting voter literacy in India. Since 2009, they have been working towards preparing India’s electors and equipping them with basic knowledge related to the electoral process.

- SVEEP’s primary goal is to build a truly participative democracy in India by encouraging all eligible citizens to vote and make an informed decision during the elections.
• The programme is based on multiple general as well as targeted interventions that are designed according to the socio-economic, cultural and demographic profile of the state as well as the history of electoral participation in previous rounds of elections and learning thereof.

• Greater Participation for a Stronger Democracy’ is the motto for the SVEEP programme. In 2011, the government started with National Voters’ Day to be celebrated on 25th June every year as a part of the programme.

3.16. Data Localisation and Srikrishna Panel Report

• Justice B N Srikrishna Committee disallowed cross-border transfer of all critical personal data and mandated that a live copy of data pertaining to Indian citizens be kept on servers in the country by all companies, at all times. A subset of that data, labeled critical personal data, must be stored and processed only in India.

• The RBI set a deadline for global companies to comply with the same. is allowed the cross-border transfer of all critical personal data and mandated that a live copy of data pertaining to Indian citizens be kept on servers in the country by all companies, at all times. As of now, much of cross-border data transfer is governed by individual bilateral "mutual legal assistance treaties" (MLATs) to obtain access, delaying investigations.

• The European Union’s General Data Protection Regulation (GDPR) does not mandate all data to be localised, but rather restricts flow to countries with a strong data protection framework. In 2018 US President Donald Trump signed the Clarifying Lawful Overseas Use of Data Act (CLOUD Act) which established data sharing with certain countries.


3.17. Metropolitan Areas in India

• Indian census considers an area as urban only if it fulfills the following criteria:
  ✓ The population of the settlement should be 5000 or more
  ✓ The density of at least 400 persons per sq.km
  ✓ At least 75% of the male workers engaged in non-agricultural occupations


• By the 74th Amendment Act, 1992, Article 243P(c) of the Constitution defines 'metropolitan areas' as those

• having a “population of ten lakhs [a million] or more, comprised in one or more districts and consisting of two or more municipalities/panchayats/ other contiguous areas, specified by the governor through public notification to be a metropolitan area".

• Article 243 ZE provides for each metropolitan area, a Metropolitan Planning Committee has to be constituted.
The Metropolitan Planning Committee is to prepare a draft development plan for the Metropolitan area as a whole.

The Legislature of a State may, by law, make provisions with respect to-

✓ the composition of the Metropolitan Planning Committees;

✓ the manner in which the seats in such Committees shall be filled; Provided that not less than two-thirds of the members of such Committee shall be elected by, and from amongst, the elected members of the Municipalities and Chairpersons of the Panchayats in the Metropolitan area in proportion to the ratio between the population of the Municipalities and of the Panchayats in that area;

✚ the representation, in such Committees of the Government of India and the Government of the State and of such organisations and institutions as may be deemed necessary for carrying out the functions assigned to such Committees;

✚ the functions relating to planning and coordination for the Metropolitan area which may be assigned to such Committees;

✚ the manner in which the Chairpersons of such Committees shall be chosen.

3.18. ‘One Nation, One Vote’

The Law Commission of India (Chair: Justice B.S. Chauhan) released its draft report on Simultaneous Elections on August 30, 2018. The report examined legal and constitutional questions related to the conduct of simultaneous elections. Key draft recommendations include:

Conduct of simultaneous elections: The Commission noted that simultaneous elections cannot be held within the existing framework of the Constitution. Simultaneous elections may be conducted to Lok Sabha and state Legislative Assemblies through appropriate amendments to the Constitution, the Representation of the People Act 1951, and the Rules of Procedure of Lok Sabha and state Assemblies. The Commission also suggested that at least 50% of the states should ratify the constitutional amendments.

The Commission noted that holding simultaneous elections will:

✓ save public money,

✓ reduce the burden on the administrative setup and security forces,

✓ ensure timely implementation of government policies, and

✓ ensure that the administrative machinery is engaged in development activities rather than electioneering.

The Commission noted that a no-confidence motion if passed may curtail the term of Lok Sabha/ state assembly.

✓ It recommended replacing the ‘no-confidence motion’ with a ‘constructive vote of no-confidence’, through appropriate amendments.

✓ In a constructive vote of no confidence, the government may only be removed if there is confidence in an alternative government.
✓ It further suggested the option of limiting the number of such motions during the term of the House/Assembly.

• If no party secures a majority to form the government, it may result in a hung House/Assembly. In order to prevent this, the Commission recommended that the President/Governor should give an opportunity to the largest party along with their pre or post-poll alliance to form the government.

✓ If the government can still not be formed, an all-party meeting may be called to resolve the stalemate. If this fails, mid-term elections may be held.

• The Commission recommended that appropriate amendments be made to provide that any new Lok Sabha/Assembly formed after mid-term elections, will be constituted only for the remainder of the previous term, and not the entire five years.

• NITI Aayog in their Report provided a definition of the term “Simultaneous Elections”, as ideally, simultaneous elections should imply that elections to all the three tiers of constitutional institutions take place in a synchronized and coordinated fashion. What this effectively means is that a voter casts his vote for electing members for all tiers of the Government on a single day.

• The concept of simultaneous elections is in-fact not new to the country. Post-adoption of the Constitution, elections to Lok Sabha and all State Legislative Assemblies were held simultaneously over the period 1951 till 1967 when the cycle of synchronized elections got disrupted.

• Article 83(2) of the Constitution provides for a normal term of five years for the House of People (Lok Sabha), Article 172 (1) provides for similar tenure for the State Legislative Assembly from the date of its first sitting.

• Both Lok Sabha and State Assemblies do not have a fixed term and can be dissolved earlier than their normal terms. Various provisions in the Constitution and relevant directions laid down by the Supreme Court of India drive the stipulations (grounds leading to such dissolution, who has the power to effect such dissolution etc.) that may cause an early dissolution of legislatures.

• Tenure of the House cannot be extended beyond 5 years except in emergency situations.

• Election Commission of India is empowered to notify elections to both Lok Sabha and State Leg. six months prior to the end of the normal terms of the Houses

3.19. NRC and Additional Draft Exclusion List

• The NRC is basically a list of Indian citizens of Assam.

• NRC prepared in 1951 is being updated to include the names of people or their descendants who appear in the 1951 NRC, in any of the Electoral Rolls, or in any one of the other admissible documents issued up to the midnight of March 24, 1971. Those excluded from final draft could appeal for their inclusion in the final NRC through the ‘claims’ round. Under ‘objections’, people could raise objections to the inclusion of a person’s name in the draft NRC.

• In last year’s draft, published on July 30 last year, 2.89 crore of the 3.29 crore applicants were included, leaving out over 40 lakh people. Those excluded were given a chance to appeal in the ‘claims and objections’ round. Over one lakh people who were part of the final draft of the National Register of Citizens (NRC) published in July last year but were found ineligible thereafter — they have been named in the Additional Draft Exclusion List published on 26th June 2019.
These over one lakh people were found ineligible during re-verification for any one of the following reasons:

✓ Persons who were found to be DF (Declared Foreigner) or,
✓ DV (Doubtful Voter) or,
✓ PFT (persons with cases Pending at Foreigners Tribunals) or,
✓ their descendants, as applicable, discovered after publication of draft NRC,
✓ persons who were found to be ineligible while appearing as witness in hearings held for disposal of Claims & Objections, persons who were found to be ineligible during the process of verification carried out by the Local Registrars of Citizens Registration (LRCRs) after publication of draft NRC.

Such persons will have the opportunity to file their Claims which will be disposed through a hearing by a Disposing Officer. The submission of Claim and its disposal by the Disposing Officer through a hearing will happen together.

LOI will mention the details of the venue of claim submission cum hearing. The hearings will start from 5th July 2019 onwards. The date of hearings will also be available online in the NRC website from June 29 onwards. All such Claims will be disposed thereafter and results of such persons will be declared in the Final NRC on July 31 2019.

The preparation of the draft exclusion list of the NRC was approved by the SC under the under Clause 5 of the Schedule of the Citizenship (Registration of Citizens and Issue of National Identity Cards) Rules, 2003.

The provision of suo moto verification is mentioned in Section 4 (3) of the Schedule of the above mentioned Citizenship Rules, 2003, which says that the local registrar of citizen registration (LRCR) may at any time before the final publication of NRC in the state of Assam may verify names already in the final draft NRC if considered necessary.

3.20. SARATHI and Universal Smart Card Driving License

The Ministry of Road Transport and Highways has decided to modify the format of driving licenses to laminated card without chip or smart card type driving licences.

The Ministry has prescribed a common standard format and design of the Driving Licence for whole of the country which includes the placement of information, standardization of fonts etc.

This Ministry through its flagship application called SARATHI (for Driving License) developed by NIC (National Informatics Centre) have a common countrywide database of all driving license holders. Almost 15 crore driving license records are available in its central repository (National Registry).

The SARATHI application has the feature to identify duplicate records in real time online basis and access information about the challans if any, which facilitates the licencing authority that delinquent drivers do not get a duplicate driving licence.

Draft National Policy on Domestic Workers

A draft National Policy on domestic workers is under consideration of the Central Government. The salient features of the draft policy are as under:-
✓ Inclusion of Domestic Workers in the existing legislations

✓ Domestic workers will have the right to register as workers. Such registration will facilitate their access to rights & benefits accruing to them as workers.

✓ Right to form their own associations, trade unions

✓ Right to have minimum wages, access to social security, protection from abuse, harassment, violence

✓ Right to enhance their professional skills

✓ Protection of Domestic Workers from abuse and exploitation

✓ Domestic Workers to have access to courts, tribunals, etc.

✓ Establishment of a mechanism for regulation of concerned placement agencies

• The Central Government has enacted the Unorganized Workers’ Social Security Act, 2008 for providing social security to all unorganized workers including domestic workers.

• The Act provides formulation of social security schemes viz. life and disability cover, health and maternity benefits & old age protection by the central Government.

• The state Government are mandated under the Unorganized Workers’ Social Security Act, 2008 to formulate suitable welfare schemes for unorganized sector workers including domestic workers relating to provident fund, employment injury benefits housing, education schemes for children, skill upgradation of workers, financial assistance & old age homes.

3.21. Cauvery Water Management Authority

• The Cauvery Water Management Authority (CMA) was constituted by Union Government on Supreme Court’s direction to address the dispute over sharing of river water among Tamil Nadu, Karnataka, Kerala and Puducherry.

• The authority comprises a chairman, eight members besides a secretary. Out of eight members, two each will be full-time and part-time members, while the rest four would be part-time members from states.

• The chairman of the authority should either be a "senior and eminent engineer" with an experience of water resource management and handling of inter-state water dispute or an IAS officer with an experience in water resources management and handling the inter-state dispute. He will have the tenure of five years or until he reaches the age of 65, whichever is earlier.

• The scheme would deal with the issue of water share of the four states in different circumstances like normal and deficient water years in the Cauvery river basin.

• The authority will exercise power and discharge such duty for "sufficient and expedient for securing compliance and implementation" of the Supreme Court order in relation to "storage, apportionment, regulation and control of Cauvery waters".

• The authority will also supervise operation of reservoirs and with regulation of water releases there from with the assistance of regulation committee, the notification said.
The authority will also look at regulated release of water by Karnataka, at the inter-state contact point presently identified as Billigundulu gauge and discharge station, located on the common border of Karnataka and Tamil Nadu.

The Cauvery Water Management Authority (CWMA) on 25th June asked Karnataka to release nearly 40.43 thousand million cubic (TMC) feet water to Tamil Nadu for the months of June and July, sources said. The decision is, however, subject to review, depending on the rainfall received by Cauvery basin and the water storage of four reservoirs in Karnataka.

### 3.22. Prison Statistics India 2016 Report

- **Published by National Crime Records Bureau (NCRB)**

- **At the end of 2016, there were 4.33 lakh people in prison; of them 68% were under-trials, or people who have yet to be found guilty of the crimes they are accused of:**
  
  ✓ India’s undertrial population remains among the highest in the world and more than half of all undertrial were detained for less than six months in 2016
  
  ✓ The high proportion of undertrials in the overall prison population may be the result of unnecessary arrests and ineffective legal aid during remand hearings

- **The rise in the number of people held under administrative (or ‘preventative’) detention laws in Jammu & Kashmir (a 300% increase) is disturbing**
  
  ✓ It is used by authorities in J&K and other states to unfairly detain persons without charge or trial and circumvent regular criminal justice procedures

- **Section 436A of Code of Criminal Procedure: It allows undertrials to be released on a personal bond if they have undergone half of the maximum term of imprisonment they would have faced if convicted**
  
  ✓ Research at Amnesty India has found that prison officials are frequently unaware of this section and unwilling to apply it

- **Unnatural deaths in prisons doubled between 2015 and 2016**

- **Rate of suicide among prisoners also increased by 28%**
  
  ✓ National Human Rights Commission in 2014 stated that on average, a person is one-and-a half times more likely to commit suicide in prison than outside

- **Shortcomings**
  
  ✓ Failure to include demographic details of religion and the Scheduled Caste and Scheduled Tribe status of prisoners
    
    ✤ In the earlier reports, when the information was consistently published, it revealed the over-representation of Muslims, Dalits and Adivasis among under-trials in prisons

  ✓ It doesn't mention the prison visits by official and non-official visitors which typically include district magistrates and judges, social workers and researchers
    
    ✤ It is very important in the context of independent monitoring of prisons
Also it is essential to uncover torture and other forms of ill-treatment, increase transparency and balance the power asymmetry in prisons.

NCRB has said that about 6013 individuals with mental illness were in jails in 2016.

It doesn't provide information on whether they were diagnosed with mental illness before entering prison.
4. International Relations

To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2

4.1. Hong Kong Protests

- As a result, Hong Kong has its own legal system and borders, and rights including freedom of assembly and free speech are protected.
- The Chinese government said in 2014 it would allow voters to choose their leaders from a list approved by a pro-Beijing committee, but critics called this a "sham democracy" and it was voted down in Hong Kong's legislature.
- Protests in Hong Kong are against a controversial extradition bill, which if approved, would allow suspects to be sent to mainland China for trial.

4.2. SCO

- It is a permanent intergovernmental international organisation, the creation of which was announced on 15 June 2001 in Shanghai (China) by Kazakhstan, China, Kyrgyz Republic, Russian, Tajikistan, and Uzbekistan. It was preceded by the Shanghai Five mechanism.

Main goals

- Strengthening mutual trust and neighborhood among the member states promoting their effective cooperation in politics, trade, the economy, research, technology, and culture, as well as in education, energy, transport, tourism, environmental protection, and other areas.
- Making joint efforts to maintain and ensure peace, security, and stability in the region and
- Moving towards the establishment of a democratic, fair and rational new international political and economic order.
- The historical meeting of the Heads of State Council of the Shanghai Cooperation Organisation was held in Astana in 2017, where the status of the full member was granted to India and Pakistan.
- SCO comprises eight member states and 4 observers (Afghanistan, Belarus, Iran, and Mongolia).
Heads of State Council (HSC) is the supreme decision-making body which meets once a year and adopts decisions and guidelines on all important matters of the organisation.

- Its official languages are Russian and Chinese.
- It has two permanent bodies — SCO Secretariat based in Beijing and the Executive Committee of the Regional Anti-Terrorist Structure (RATS) based in Tashkent.
- RATS operates on combating terrorism, separatism, and extremism.
- SCO Interbank Consortium (SCO IBC) was established in 2005 to provide funding and bank services for investment projects sponsored by the governments of the SCO member states.
- India and Pakistan are not members of the same.

### 4.3. BIMSTEC

- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organization comprising seven Member States lying in the littoral and adjacent areas of the Bay of Bengal constituting a contiguous regional unity.
- This sub-regional organization came into being on 6 June 1997 through the Bangkok Declaration.
- It constitutes seven Member States: five deriving from South Asia, including Bangladesh, Bhutan, India, Nepal, Sri Lanka, and two from Southeast Asia, including Myanmar and Thailand.
- BIMSTEC region is home to around 1.5 billion people which constitute around 22% of the global population with a combined gross domestic product (GDP) of 2.7 trillion economies.
- Unlike many other regional groupings, BIMSTEC is a sector-driven cooperative organization.
- Starting with six sectors—including trade, technology, energy, transport, tourism, and fisheries—for sectoral cooperation in the late 1997, it expanded to embrace nine more sectors—including agriculture, public health, poverty alleviation, counter-terrorism, environment, culture, people to people contact and climate change—in 2008.
- The Chairmanship of BIMSTEC rotates among the Member States. Sri Lanka is the present chair of BIMSTEC.
4.4. ASEAN Plus Three Cooperation

- It is a forum that functions as a coordinator of co-operation between the Association of Southeast Asian Nations and the three East Asian nations of China, South Korea, and Japan
- It is the latest development of East Asian regional co-operation
- Its significance was strengthened by the Asian Financial Crisis
- In response to the crisis, ASEAN closely cooperated with China, South Korea, and Japan. Since the implementation of the Joint Statement on East Asia Cooperation in 1999 at the Manila Summit, APT finance ministers have been holding periodic consultations
- ASEAN Plus Three, in establishing the Chiang Mai initiative, has been credited as forming the basis for financial stability in Asia, the lack of such stability has contributed to the Asian Financial Crisis

Asian Currency Unit (ACU) is a proposed weighted index of currencies for ASEAN+

- Its purpose is to help stabilise the region's financial markets
- It is a currency basket and not a real currency i.e., a benchmark for regional currency movements
- Since the process began in 1997, ASEAN Plus Three (APT) co-operation has broadened and deepened to also focus on subjects other than finance too in the discussion such as the areas of food and energy security, financial cooperation, trade facilitation, disaster management, people-to-people contacts, narrowing the development gap, rural development and poverty alleviation, human trafficking, labour movement, communicable diseases, environment and sustainable development, and transnational crime, including counterterrorism.

4.5. Conference on Interaction and Confidence-Building Measures in Asia (CICA)

- It is an intergovernmental forum for enhancing cooperation towards promoting peace, security and stability in Asia
- It is a forum based on the recognition that there is close link between peace, security and stability in Asia and in the rest of the world
- It pursues its policy based on the principles of sovereign equality, non-interference in internal affairs of the Member States and economic, social and cultural cooperation to achieve its main objective of enhancing co-operation through elaborating multilateral approaches towards promoting peace, security and stability in Asia
- All decisions in CICA are taken by consensus
- For becoming a member of CICA, a state must have at least a party of its territory in Asia
- A CICA summit is convened every four years in order to conduct consultations, review the progress and set priorities
In News

- External Affairs Minister S. Jaishankar attended the 5th conference in the Tajik capital Dushanbe
- Theme: Shared Vision for a Secure and More Prosperous CICA Region
- India is a member of the 27 member body since its inception and former PM Atal Bihari Vajpayee had participated in the first CICA summit in 2002 in Almaty, Kazakhstan
- The minister stressed that terrorism is the gravest threat that Asia faces and CICA members are its victims and it should be clear that terrorists and their victims must never be equated
- India has already proposed Comprehensive Convention on International Terrorism (CCIT) in the United Nations

4.6. New START Treaty

- The New Strategic Arms Reduction Treaty (New START) caps the number of nuclear warheads well below Cold War limits
  - It replaced the 1991 START I treaty, which expired in December 2009 and superseded the 2002 Strategic Offensive Reductions Treaty (SORT), and will expire in 2021
- It was signed by US President Barack Obama and Russian President Dmitry Medvedev in Prague in 2010
- It continues the bipartisan process of verifiably reducing the US and Russian strategic nuclear arsenals
- Provisions
  - It caps the accountably deployed strategic nuclear warheads and bombs along with the missile, bomber and launcher limits
  - It does not limit the number of non-deployed ICMBs and SLBMs, but it does monitor them and provide for continuous information on their locations and on-site inspection to confirm that they are not added to the deployable force
  - It does not prohibit either side from deploying conventional warheads on long-range ballistic missiles
- Together with the Intermediate-Range Nuclear Forces (INF) Treaty, New START is considered a centerpiece of superpower arms control
  - Russia suspended participation in the INF treaty in March 2019 after President Trump's White House announced it would ditch the key agreement over alleged Russian violation of the terms

4.7. QUAD Meet

- India, United States, Japan and Australia met for the fourth time with latest quadrilateral meet in Bangkok, Thailand
- India has said that the quadrilateral meeting is a consultative process, not a military alliance
✓ What began as a humanitarian coordination effort among the four countries with the December 26, 2004 tsunami had a brief life as a “Quadrilateral Security Dialogue” meeting in 2007. But Australia later removed itself from that framework, and the four did not meet again until 2017

- It stands for free passage for ships and a free and open Indo-Pacific
- The countries reiterated their strong support for Asean-centrality and Asean-led mechanisms in the regional architecture for Indo-Pacific and in this regard welcomed the initiative of Asean towards a common vision for Indo-Pacific
- India, Australia, Japan and the US revived the Quad in November 2017 as part of efforts to keep key sea routes in the Indo-Pacific free of any influence

### 4.8. Golden Card Programme

- United Arab Emirates launched a permanent residency scheme to woo wealthy individuals and exceptional talents such as doctors, engineers, scientists, students and artists
  - The move could attract more Indian professionals and businessmen to the Gulf nation
- It offers unprecedented benefits to the cardholders and their families while creating an attractive environment for business and growth
  - The benefits of the permanent residency also include the spouse and children of the cardholder to ensure cohesive social ties
- The scheme categorises the visa in the following ways
  - General investors who will be granted a 10-year visa
  - Real estate investors, visa for 5 years
  - Entrepreneurs and talented professionals such as doctors, researchers for 5 years
  - Innovators for 10 years
  - Outstanding students for five years
- The Indian expatriate community is the largest ethnic community in the UAE, constituting roughly about 30% of the country’s population of around 9 million

### 4.9. Comprehensive Test Ban Treaty Organisation (CTBTO)

- India has been invited as an observer in the CTBT
  - CTBT is a global treaty that opened for signature in 1996, but is yet to come into force because eight countries, including India, have not signed it as yet
  - Between 1945 and 1996, over 2000 nuclear tests were conducted — mainly by US, Soviet Union and France — and the treaty was brought in to halt further nuclear tests
  - So far, 184 countries have signed the treaty and 168 of them have also ratified it. However, for it to come into force, 44 countries that have nuclear capability and research reactors need to sign and ratify
Eight of these 44 are yet to do so. The US, China, Egypt, Iran and Israel have signed but not yet ratified.

India, Pakistan and North Korea are yet to sign. While the US has not ratified yet, it is the biggest funder for the CTBTO.

India has refused to sign the Treaty on the grounds that the CTBT, like the Nuclear Non Proliferation Treaty (NPT), is discriminatory. While endorsing the spirit of test-ban and self imposed moratorium on tests, India has said it would join the treaty only if there was no discrimination in favour of the five ‘nuclear weapon states’ in fulfilling the obligations for complete elimination of nuclear weapons.

Pakistan has joined in as an observer.

The decision has been taken in the wake of changes in the organisation, which has moved from being more confident in CTBT and International Monitoring System. This is because the CTBTO is making the data available to people — which is not traditional. This was not so at the beginning of the organisation which had the ‘task leader for data confidentiality’ which doesn’t exits anymore.

Being an observer will give India access to data from the International Monitoring System — a network which when complete will consist of 337 facilities (321 monitoring stations and 16 radionuclide labs) located in 89 countries.

This system can detect even small nuclear explosions using seismology, hydroacoustics, infrasound and radionuclide technology.
5. Economy

To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2
- Video 3
- Video 4

5.1. Dighi Port

- The port is located on the bank of Rajpuri creek, in the Raigad District of Maharashtra.
- The unique feature of the port is its ideal location within a natural harbor and exclusive channel offering a depth of 14.5 m, making it one the deepest port of Maharashtra.
- Dighi Port is the first Greenfield port in Maharashtra.
- Do find out about Major and Minor Ports.

5.2. The Food Safety And Standards Authority Of India (FSSAI)

- Established under Food Safety and Standards Act, 2006
- It consolidates various acts & orders that have hitherto handled food related issues in various Ministries and Departments.
- Ministry of Health & Family Welfare, Government of India is the Administrative Ministry for the implementation of FSSAI.
- FSSAI has given provisional approval to nearly 19 Rapid Analytical Food Testing (RAFT) kits and devices. To strengthen the food testing ecosystem in the country. This would foster innovation and also encourage start-ups to work in the food testing space.
- FSSAI will also release the first edition of the State Food Safety Index, that measures the performance of the States on key parameters of food safety. Parameters include compliance, food testing-infrastructure & surveillance and consumer empowerment. etc.

FSSAI Codex Trust Fund

- The Codex Trust Fund supports countries to build strong, solid and sustainable national capacity to engage in Codex.
- It is managed in a transparent manner by the Codex Trust Fund Secretariat in WHO, aimed to support several developing and least developed countries.
- Codex Trust Fund (CTF2), officially launched in July 2016 at the 39th Session of the CAC focuses on helping countries address the barriers to effective engagement in Codex at national level.
- The Codex Trust Fund 2 will run for 12 years and support over 100 eligible countries to build strong, solid and sustainable national capacity to engage in Codex where international food standards are established.
• Joint application by India along with Bhutan and Nepal has been accepted for support from CTF2.
• The project will be run for a period of three years.

5.3. Registered Valuers’ Organisations

• Insolvency and Bankruptcy Board of India (IBBI) has been designated — under the Government-framed rules — as the ‘authority’ that recognises registered valuers’ organisations (RVOs).

• IBBI registers valuers’ and monitors their conduct and performance when it comes to valuation assignments under IBC or Companies Act.

• For any market economy (includes India), valuation of assets is crucial to facilitate variety of transactions.

• Every valuation required under the Companies Act 2013 and the Insolvency and Bankruptcy Code (IBC) 2016 is conducted through registered valuers.

5.4. Libor Out Sonia In

• Britain’s Financial Conduct Authority (FCA) has ordered banks and markets to stop using the London Interbank Offered Rate or Libor as a basis for pricing contracts.

• Market participants have been asked to switch to the Bank of England’s SONIA overnight interest rate.

• The Sterling Overnight Interbank Average Rate (SONIA) is compiled by the BoE and based on actual transactions.

• It is seen as harder to manipulate than Libor, which is based on quotes supplied by banks.

5.5. Copyright Board

• The draft Copyright Amendment Rules 2019, released by DIPP, proposes setting up an Appellate Board to replace the Copyright Board.

• It is being done to ensure that it is in sync with the technological advancements in the current digital era.

• It also proposes to amend the manner in which copyright societies fix their tariff schemes.

• A copyright Society is a legal body which protects or safeguards the interest of owners of the work by giving assurance to the creative authors of the commercial management of their works.

• These societies issue licences and collects royalties in accordance with a tariff scheme.

• The copyright regime is governed by the Copyright Act, 1957 and the Copyright Rules, 2013. The Copyright Rules, 2013 were last amended in 2016 through the Copyright Amendment Rules, 2016.

5.6. India’s Turmeric Exports

• North America has emerged as the largest market for the commodity.
5.7. Purchasing Managers' Index PMI

- The Purchasing Managers' Index (PMI) is an indicator of the economic health of the manufacturing sector.
- The PMI is based on five major indicators: new orders, inventory levels, production, supplier deliveries and the employment environment.
- The purpose of the PMI is to provide information about current business conditions to company decision makers, analysts and purchasing managers.
- For India, the PMI Data is published by Japanese firm Nikkei but compiled and constructed by Market Economics (for the US, it is the Institute for Supply Management, ISM).
- The variables used to construct India’s PMI for manufacturing sector are: Output, New Orders, Employment, Input Costs, Output Prices, Backlogs of Work, Export Orders, Quantity of Purchases, Suppliers” Delivery Times, Stocks of Purchases and Stocks of Finished Goods. Similar variables are used for the construction of services PMI.
- A PMI of more than 50 represents expansion of the manufacturing sector when compared to the previous month. A PMI reading under 50 represents a contraction, and a reading at 50 indicates no change.

5.8. GDP-PPP

Big Mac Index

- The Big Mac Index is published by The Economist as an informal way of measuring the purchasing power parity (PPP) between two currencies and provides a test of the extent to which market exchange rates result in goods costing the same in different countries.

5.9. Sugar production

- Uttar Pradesh is the highest sugarcane producing State.
- It has the most area under the production as well as the maximum output of Sugarcane.
- It is followed by Maharashtra.
- Tamil Nadu has the highest productivity of sugarcane in the country.

More on Sugarcane

- It is now widely accepted that India is the original home of Saccharum species.
• Sugarcane is a tall perennial tropical grass.
• Sugarcane is propagated vegetatively from stem cuttings.
• Broadly there are two distinct agro-climatic regions of sugarcane cultivation in India, viz., tropical and subtropical. However, five agro-climatic zones have been identified.
• Sugarcane is grown in the world from altitude 36.7° N and 31.0° S, from sea level to 1000m of altitude or little more.
• Rainfall: A total rainfall between 1100 and 1500 mm is adequately provided the distribution is right, abundant in the months of vegetative growth followed by a dry period for ripening.
• Sugarcane undergoes a type of photosynthesis which is called C4.
• Usually, plants use a C3 type of photosynthesis.
• There the enzyme that captures the CO2 inside the cell forms primarily a compound containing 3 carbon atoms (3-PGA).
• However, certain plants (e.g. sugarcane, maize and sorghum) have been modified during evolution so that they contain complementary metabolic pathway where, instead of incorporating carbon from CO2 in a 3-carbon acid, they incorporate into a 4-carbon acid and because of that this type of photosynthesis is called C4.
• We even refer to a given plant species as a C4 or C3 species depending on its metabolism
• Tropical Sugarcane region: The tropical sugarcane region consists of sugarcane agro-climatic zone 4 (peninsular zone) and 5(Coastal zone) which includes the states of Maharashtra, Andhra Pradesh, Tamil Nadu, Karnataka, Gujarat, Madhya Pradesh, Goa, Pondicherry and Kerala.
• Sub-tropical sugarcane region: Around 55 per cent of total cane area in the country is in the sub-tropics. U.P, Bihar, Haryana and Punjab comes under this region.

Climatic requirement
• Temperature for different critical stages of sugarcane:
• The different critical stages are germination, tillering, early growth, active growth and elongation.
• The optimum temperature for sprouting (germination) of stem cuttings is 32° to 38°C.
• It slows down below 25°, reaches plateau between 30°-34°. Temperatures above 38° reduce the rate of photosynthesis and increase respiration.
• For ripening, however, relatively low temperatures in the range of 12° to 14° are desirable.
• Reduction in yield of sugarcane due to rise in temperature:
• The sugarcane productivity and juice quality are profoundly influenced by weather conditions prevailing during the various crop-growth sub-periods.
• Sugar recovery is highest when the weather is dry with low humidity; bright sunshine hours, cooler nights with wide diurnal variations and very little rainfall during the ripening period.
• These conditions favour high sugar accumulation.
The climatic conditions like very high temperature or very low temperature deteriorate the juice quality and thus affecting the sugar quality.

A favourable climate like warm and humid climate favour the insect pests and diseases, which cause much damage to the quality and yield of its juice and finally sucrose contents.

5.10. Import of Pulses

- India is the world's biggest producer and consumer of pulses.
- Mainly: yellow peas, green gram and chickpeas.
- Imported from: Russia, Canada, Australia and Myanmar.

5.11. Top recipients of FDI

- UNCTAD's World Investment Report 2019
- India ranks 10th amongst the top recipients of FDI in 2018.
- Global FDI flows, however, fell 13 per cent in 2018 to $1.3 trillion, from $1.5 trillion in the previous year – the third consecutive annual decline.
- US remained the largest recipient of FDI, followed by China, Hong Kong (China) and Singapore.
- In terms of outward investors, Japan became the largest followed by China and France.

5.12. Kisan Credit Card (KCC)

- The Kisan Credit Card (KCC) scheme was introduced in 1998 for the issue of Kisan Credit Cards to farmers on the basis of their holdings for uniform adoption by the banks so that farmers may use them to readily purchase agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs.
- Implemented by Commercial Banks, RRBs, Small Finance Banks and Cooperatives.
- Eligibility
  - Farmers - individual/joint borrowers who are owner-cultivators;
  - Tenant farmers, oral lessees & share croppers;
  - Self Help Groups (SHGs) or Joint Liability Groups (JLGs) of farmers including tenant farmers, share croppers etc.

Objectives

- To meet the short term credit requirements for cultivation of crops
- Postharvest expenses
- Produce Marketing loan
- Consumption requirements of farmer household
Working capital for maintenance of farm assets, activities allied to agriculture, like dairy animals, inland fishery and also working capital required for floriculture, horticulture etc.

Investment credit requirement for agriculture and allied activities like pump sets, sprayers, dairy animals, floriculture, horticulture etc.

Short term credit requirements of rearing of animals, birds, fish, shrimp, other aquatic organisms, the capture of fish.

5.13. Consumer Price Index

Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation releases CPI (Rural, Urban, Combined).

Consumer Price Index Numbers for Agricultural Labourers and Rural Labourers is released by the Ministry of Labour & Employment.

5.14. WTO - Subsidies

India has submitted a new proposal to the World Trade Organisation (WTO), suggesting that developing countries and the least developed countries (LDCs) should be exempted from prohibitions for granting certain fisheries subsidies if the fishing occurs within waters under a country’s own authority.

At the Ministerial Conference in Buenos Aires in December 2017, members agreed to work towards adopting an agreement on disciplines that prohibit subsidies that contribute to overcapacity and overfishing, and eliminate subsidies that contribute to illegal, unreported and unregulated fishing by the next the Ministerial Conference in 2020.

In the negotiations, a number of developed country members, such as the US and Australia, are trying to do away with special and differential treatment for developing countries, in terms of lower reduction commitments.

On WTO: https://youtu.be/_dQUNGeOijk
On WTO Boxes: https://youtu.be/6zEp_YWOyhg

5.15. MPEDA Marine Product Export Development Authority

Marine Product Export Development Authority to revive the production of black tiger shrimps have started receiving encouraging response from farmers.

About MPEDA

The Marine Products Export Development Authority (MPEDA) was set up by an act of Parliament during 1972.

The erstwhile Marine Products Export Promotion Council established by the Government of India in September 1961 was converged in to MPEDA on 24th August 1972.

MPEDA is given the mandate to promote the marine products industry with special reference to exports from the country.
• It is under Ministry of Commerce & Industry.

5.16. Formalisation Of Workforce

• Workforce under flexi-staffing, or those provided through contractors to various employers has been steadily growing.

• The rise in number of flexi-staffing workers indicates formalisation of workforce. They get provident fund, group insurance, health insurance and other social security benefits available to formal sector workers.

• Besides, the employers have virtually no need to comply as many as 44 labour laws. The contractors, or flexi-staffing firms take care of all such legal obligation.

• The reforms that had significant impact on job formalization includes Skill India Initiative, GST Reform, EPF Reform and ESIC Reform among others. It showed that Haryana, Gujarat, Karnataka, Madhya Pradesh, Andhra Pradesh and Telangana are the states with high growth potential for flexi-staffing.

5.17. Kaladan Multi Modal Transit Transport Project

• The project is connecting the eastern Indian seaport of Kolkata with Sittwe seaport in Rakhine State, Myanmar by sea.

• In Myanmar, it will then link Sittwe seaport to Paletwa in Chin State via the Kaladan river boat route, and then from Paletwa by road to Mizoram state in Northeast India.

• It seeks to create an alternative access route to the North-Eastern region by developing a multi-modal mode of transport for shipment of cargo from the Eastern ports of India to Myanmar as well as to the North-Eastern part of India through Myanmar.

• The project provides a strategic link to the North-East, thereby reducing pressure on the Siliguri Corridor.

5.18. Invest India & FDI

• Invest India was formed in 2009 under Section 25 of the Companies Act 1956 with 49 per cent equity by then Department of Industrial Policy and Promotion, Ministry of Commerce and Industry and 51 per cent shareholding by FICCI. Invest India acts as National Investment Promotion and Facilitation Agency and first point of reference for investors in India.

• The current shareholding pattern of Invest India has 51 per cent equity by industry associations (that is, 17 per cent each of FICCI, CII and Nasscom) and the remaining 49 per cent by the Centre and 19 State governments. FDI inflows depend on a host of factors such as the availability of natural resource, market size, infrastructure, political and general investment climate as well as macro-economic stability and investment decision of foreign investors.
5.19. Kimberley Process

- The Kimberley Process (KP) unites administrations, civil societies, and industry in reducing the flow of conflict diamonds - 'rough diamonds used to finance wars against governments' - around the world.
- India is the Chair and host of 2019 Kimberley Process.
- Indian Government recently announced that it plans to promote common facility centres to support gems and jewellery industry.

5.20. Multi-Brand Retail

- According to FDI policy, India permits foreign direct investment in the multi-brand retail sector with a cap of 51 per cent ownership by overseas players.
- Draft e-commerce policy is being finalised by the Department for Promotion of Industry and Internal Trade (DPIIT).

E-Commerce

- E-commerce means buying and selling of goods and services including digital products over digital & electronic network.
- Inventory based model of e-commerce: An e-commerce activity where inventory of goods and services is owned by e-commerce entity and is sold to the consumers directly. FDI is not permitted in inventory based model of e-commerce.
- Marketplace based model of e-commerce: Means providing of an information technology platform by an e-commerce entity on a digital & electronic network to act as a facilitator between buyer and seller. 100% FDI under automatic route is permitted in marketplace model of e-commerce.
- Inventory of a vendor will be deemed to be controlled by e-commerce marketplace entity if more than 25% of purchases of such vendor are from the marketplace entity or its group companies.

5.21. Service Charges

- The restaurant industry defines service charge as a fee that is levied over and above the price of the food and drink for the additional convenience of serving inside a restaurant.
- They also emphasise that it is an internationally accepted best practice. The amount collected is distributed among the staff of the restaurant.
- A restaurant cannot force a customer to pay service charge.
- If service charge has been levied, the customer is within his/her right to ask the manager to deduct it as it is voluntary.
- It is a matter of contention in terms of GST.
- Whether to be levied on the entire amount (including service charge) or excluding it.
5.22. Steel Sector In India

- With 62-per cent share, the construction sector consumes most of the steel used in the country.
- Important inputs: Iron ore, Coal, Limestone, minerals like Manganese

5.23. Pea Seeds

- Import policy of seeds of peas is amended from restricted to free category.
- The imports were allowed with a licence earlier.
- An importer would not require a licence from the government now.

5.24. War Risk Premium

- Strait of Hormuz — the world’s busiest oil shipping lane and the only channel for vessels to enter and exit the Persian Gulf.
- India imported 84 per cent of its crude requirement in FY19
- Two of every three barrels were sourced from suppliers in West Asia.

5.25. Migration To Electric Vehicles (EVS)

- NITI Aayog’s plan to push for 100 per cent electric vehicles by completely banning two-wheelers powered by Internal Combustion Engines (ICE) of up to 150cc by 2025.
- Note: It is 2023 for three-wheelers and 2025 for two-wheelers.
- Hybrid technology can also be considered and supported for the transition from conventional internal combustion engines to full EVs.
- Recent Changes: BS-VI changeover.

5.26. International Renewable Energy Agency (IRENA)

- IRENA is an intergovernmental organisation that supports countries in their transition to a sustainable energy future, and serves as the principal platform for international cooperation, a centre of excellence, and a repository of policy, technology, resource and financial knowledge on renewable energy.
- The agency is headquartered in Masdar City, Abu Dhabi.
- 160 states and the European Union are members of IRENA.
- India is a member
India’s Renewable Energy Target

- The Government has set a target of installing 100 GW of solar capacity by 2022 in the country.
- A target of installing 175 GW of renewable energy capacity by the year 2022 has been set, which includes 100 GW from solar, 60 GW from wind, 10 GW from bio-power and 5 GW from small hydro-power.

5.27. Gold Monetisation Scheme

- Government in 2015 had launched GMS to mobilise the gold held by households and institutions. The scheme allows bank customers to deposit their idle gold holdings for a fixed period in return for an interest in the range of 2.25-2.5 per cent.
- Presently, a customer has to give gold to a hallmarking centre, which works as a collection and assaying centre.
- The gold is then forwarded to a refinery, which then sends them to banks in the form of bars.
- Based on the hallmarking centre’s receipts, the bank opens the customer’s gold deposit account.
- Presently, there is import duty on gold at the rate of 10 per cent.

5.28. MEIS (Merchandise Exports From India Scheme)

- Government is considering phasing out the flagship Merchandise Exports from India Scheme (MEIS), possibly over the next two-three years.
- The next foreign trade policy (FTP), which will kick in from April 2020.
- The basic idea is to keep exports zero-rated in accordance with the best global practices, while ensuring that all schemes remain fully WTO-compliant.
- According to the special and differential provisions in the WTO’s Agreement on Subsidies and Countervailing Measures, when a member’s per capita gross national income (GNI) exceeds $1,000 per annum (at the 1990 exchange rate) for a third straight year, it has to withdraw its export subsidies.
- According to a WTO notification in 2017, India crossed the per-capita GNI threshold for three straight years through 2015 – to $1,178 in 2015 from $1,051 in 2013.
- It seeks to promote export of notified goods manufactured/ produced in India. It is implemented by the Ministry of Commerce and Industry.

Salient features of MEIS are as under:

- MEIS is result of major consolidation and simplification.
- MEIS incentive Rates
- Duty credit scrips are freely transferable and usable for payment of custom duty, excise duty and service tax
- Incentives to be available for SEZs
5.29. Fall Army Worm (FAW)
- A pest found that attacks maize, sorghum and ragi.
- It has spread to 14 States in the country.
- New States where the FAW infestation is wreaking havoc are those from the North-eastern region.

5.30. Inter-Creditor Agreement (ICA)
- As per the RBI framework, in cases where a resolution plan (RP) is to be implemented, all lenders have to enter into an ICA during the 30-day review period (given to lenders after the first default to decide on the resolution strategy and implementation) to provide for ground rules for finalisation and implementation of the RP with respect to borrowers with credit facilities from more than one lender.
- A revised ICA is required after the RBI put together its framework as a replacement to the defunct February 12 circular on the ‘Revised Framework for Resolution of Stressed Assets’, which was struck down by the Supreme Court in April. You can watch our 2-Minute Series video on February 12 Circular of RBI.

5.31. Cement Production Increases Carbon Footprint
- Cement, responsible for 7% of global CO2 emissions’s contribution, is especially immense because of the chemical process required to make it.
- About two-thirds of the polluting gases that come from cement production stem from burning limestone. Kilns are heated to more than 1,400 degrees Celsius (2,600 Fahrenheit), about four times hotter than a home oven set to the self-clean cycle. Inside the kiln, carbon trapped in the limestone combines with oxygen and is released as CO2, the most abundant greenhouse gas.
- What comes out of the kiln is called clinker, the key raw ingredient of cement.
- It’s the substance that, when mixed with gypsum and water, binds with gravel to harden and form concrete.
- Substitutes include fly-ash, which comes from the chimneys of plants that burn coal, or slag from steel-making blast furnaces.
- They trigger a chemical reaction and form what’s known as a geopolymer binder.
6. Environment

To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2
- Video 3
- Video 4

6.1. World Environment Day (WED)

- World Environment Day (WED) is celebrated on 5th June every year.
- World Environment Day is the United Nations day for encouraging worldwide awareness and action to protect our environment.
- Since it began in 1974, the event has grown to become a global platform for public outreach that is widely celebrated in over 100 countries.
- Above all, World Environment Day is the "people's day" for doing something to take care of the Earth.
- That "something" can be local, national or global. It can be a solo action or involve a crowd. Everyone is free to choose.

Theme

- Each World Environment Day is organized around a theme that draws attention to a particularly pressing environmental concern.
- Theme is declared by UNEP.

The host

- Every World Environment Day has a different host country, where the official celebrations take place.
- The focus on the host country helps highlight the environmental challenges it faces and supports worldwide efforts to address them.

6.2. Asiatic Golden Cat

- The Asiatic golden cat (Catopuma temminckii) is listed as near threatened on the International Union for Conservation of Nature’s Red List of threatened species. It is found across eastern Nepal through north-eastern India to Indonesia.

- Golden is no longer the only colour the elusive Asiatic golden cat can be associated with. Its coat comes in five other shades in Arunachal Pradesh, scientists have discovered.

- Bhutan and China were known to have two morphs of the golden cat — one the colour of cinnamon and the other with markings similar to the ocelot, a small wild cat found in the Americas.

- Indian scientists from the Zoological Society of London (ZSL), an international conservation charity, and University College London (UCL) have discovered six colour morphs of the golden cat in Dibang Valley of Arunachal Pradesh - cinnamon, golden, gray, melanistic, ocelot and tightly rosette.
The findings have contributed to an evolutionary puzzle because no other place on earth has so many colours of wild cats of the same species.

The Idu Mishmis were aware of the different shades of the golden cat. The community believes that the cat, particularly its melanistic (dark pigmentation as opposed to albinism) morph, possesses great powers and thus observe a strict taboo on hunting the cat.

Within the six colour morphs recorded, an entirely new colour morph was also found in one of the community-owned forests. The “tightly-rosetted” morph named after the leopard-like rosettes on the coat, now sits alongside cinnamon, melanistic, gray, golden, and ocelot types.

Benefits

- ZSL scientists believe that the wide variation displayed in the cat’s coats provides them with several ecological benefits such as occupying different habitats at different elevations — from wet tropical lowland forests to alpine scrubs — and providing camouflage while preying on pheasants and rabbits.

- Colour morphs are thought to arise from random genetic mutations and take hold in the population through natural selection. In this region, scientists suspect that the phenomenon is driven by competition with other big cats such as tigers and clouded leopards. Being melanistic in the misty mountains during nocturnal hunts, for example, may mean they are better concealed from their prey; making them more efficient predators.

6.3. Spotted Owlet

- IUCN Status – Least Concern

- The Spotted Owlet is one of the most commonly sighted owls in our backyard. It is a nocturnal raptor (a bird of prey) found in the Indian Subcontinent, except for Sri Lanka.

- The owl is largely crepuscular (appearing as it does around twilight) and nocturnal, but is sometimes seen during the daytime. It normally comes out before dusk and retires by sunrise to its roost in a tree hole or branch, where pairs or small family groups huddle together.

- Its prey includes mostly beetles, moths, other insects and it also preys on earthworms, lizards, mice and small birds. At dusk, it perches on electrical wires or street lamp posts, fences or other such vantage points to look for prey, pouncing on an unwary insect, or occasionally launching an aerial attack to seize a flying insect attracted to the light from street lamps. Owls as predators keep a balance in our ecosystem by keeping a check on rodent and insect population.

6.4. Tawang yields a new species of dung beetle

- A new species of dung beetle has been discovered in Tawang district of Arunachal Pradesh. The species, Enoplotrupes tawangensis, is shining dark blue in colour and, measuring up to 27 mm, is relatively bigger than most of the dung beetles.

- Dung beetles belong to the superfamily scarabaeoidea, having clubbed antennae and pro-tibiae (pro-legs) modified for burrowing dung inside the soil. This group of insects are considered beneficial to the environment as they help in nutrient cycling of the soil. Often referred to as little recyclers, these scavenger beetles require mammalian dung to survive.
Other than the relatively large size and distinct blue colour, another important distinguishing characteristic of this species is the strong sexual dimorphism, with the fronto-clypeal horn shorter in females than males. (Sexual dimorphism is the condition where the two sexes of the same species exhibit different characteristics beyond the differences in their sexual organs.)

Insects comprise almost 65% of all animal species on the planet. From India, approximately 65,000 species of insects are known, of them, more than 22,000 species are beetles.

Dung beetles are one of the fascinating group of insects because of their ability to bury dung deep in the soil and are indicators of the ecological health of an ecosystem.

### 6.5. Black-crested Bulbul sighted after several years in Dudhwa National Park

- The black-crested Bulbul was spotted after several years in Dudhwa as the counting of birds during the summer season was held.
- The black-crested Bulbul is a bird species with a black head and deep yellow body.
- Notably enough, during the winter bird-count, the experts had sighted five new species of birds in Dudhwa which included Maroon Oriole, Eurasian sparrow hawk and short-eared eagle owl.
- The summer bird count helped to discover the native bird species in Dudhwa as in winter migratory birds also join here.
- Dudhwa Tiger Reserve, which is located on the India-Nepal border, is home to over 450 bird species, tigers, leopards, wild elephants, swamp deer, one-horned rhinos besides hundreds of other wild animals and reptiles. Its rich wildlife, massive forest cover and fabulous flora and fauna attract tourists and wildlife research scholars every year.
- The Dudhwa Tiger Reserve is a protected area in Uttar Pradesh that stretches mainly across the Lakhimpur Kheri and Bahraich districts and comprises the Dudhwa National Park, Kishanpur Wildlife Sanctuary and Katarniaghat Wildlife Sanctuary.
- Piped water coverage to increase from 18 to 100% by 2024
- The Central government has decided to increase coverage of piped water to households from the current 18 per cent to 100 per cent by 2024, according to Jal Shakti Minister.
- The formulation of a plan under 'Nal Se Jal' (water from the tap) mission to provide tap water to 14 crore households was underway.
- An emphasis will also be made on water conservation, citing the widening gap between water supply and demand.
- But water is a state subject as per the Constitution and sought collective efforts and a public movement to achieve the target.
- Sikkim had 99 per cent coverage of piped water to households, while some states such as Uttar Pradesh, Bihar, Odisha, Chhattisgarh, and Jharkhand had below five per cent.
- According to Jal Shakti Ministry officials, the per capita water availability was over 5,000-litre cube in 1950 but it has now reduced to a 1,434-litre cube.
6.6. International Centre for Automotive Technology (ICAT)

- ICAT has released India’s first Type Approval Certificate (TAC) for Bharat Stage – VI norms for the two-wheeler segment.
- This is India’s first certification in the two-wheeler segment for the BS – VI norms that are the latest emission norms as notified by the Government of India.
- ICAT has taken many steps in providing assistance and support to the automotive industry for the development, optimization and calibration of engines and vehicles for complying with these upcoming emission norms.
- Bharat Stage norms are the automotive emission norms which the automotive manufacturers have to comply to sell their vehicles in India. These norms are applicable to all two wheelers, three wheelers, four wheelers and construction equipment vehicles.
- To curb the growing menace of air pollution through the vehicle’s emission, the Government of India has decided to leapfrog from the exiting BS – IV norms to the BS- VI, thereby skipping the BS – V norms, and to implement the BS – VI norms with effect from 1st April 2020. Only those vehicles will be sold and registered in India from 1st April 2020 onwards, which comply with these norms. The norms are stringent and at par with global standards.
- Last year, ICAT issued the approval for BS –VI norms to M/s Volvo Eicher Commercial Vehicles for the Heavy Commercial Vehicle segment which was also the first in its segment in India.
- ICAT is the premier testing and certification agency authorized by the Ministry of Road Transport and Highways for providing testing and certification services to the vehicle and component manufacturers in India and abroad. It has the latest equipment, facilities and capabilities to develop, validate, test and certify the engines and vehicles for the latest norms in the field of emission and many other facilities like crash lab, NVH lab, EMC lab and test tracks.

6.7. El Salvador recognises forests as living entities

- El Salvador has, in a historic move, recognised forests as living entities. Its citizens will now be required to preserve forests.
- El Salvador has lost about 85 per cent of its native forests since the 1960s, while Earth has lost about 80 per cent of its native forests.
- The pronouncement was made on World Environment Day, which is celebrated on June 5 every year, by the Legislative Assembly of El Salvador.
- It states that each person must commit to caring for, preserving, and respecting forests. People should also promote concrete actions that expand forests in the country, it added.
6.8. Indian cities are simmering in their own waste heat

- The joint 2017 analysis by India Meteorological Department and Indian Institute of Technology-Madras found Delhi’s heat index to have registered a higher growth rate compared to the national average.

- Delhi’s heat index has increased by 0.6 degrees Celsius per decade in summers and 0.55°Celsius per decade during monsoons. (The Heat Index, sometimes referred to as the apparent temperature, is a measure of how hot it really feels when relative humidity is factored with the actual air temperature.)

- Delhi’s summers and monsoons are hotter by 3.6°C and 3.3°C on the heat index compared to the 1950s. An analysis by the Centre for Science and Environment, a New Delhi-based non-profit, of weather data for 2010-2017 reveals that average heat index of both the seasons has witnessed a steady upward trend.

- The heat index is said to be in the danger band when in the range 41-54°C. During such periods, it causes cramps and exhaustion, and there is a possibility of heat strokes with continued physical activity. Heat

- Index of Delhi has consistently been in the danger band during the summer (March-June) and monsoon (July-September) seasons since 2016 (See table: Average heat index during summer and monsoon).

- A dramatic increase in the number of days on which the heat index of Delhi crossed into the extreme danger band — conditions when heat strokes are imminent—has been noted. The most severe heat wave ever recorded in India was in 2016 and it is reflected in the Delhi data as well with the heat index of the city shooting above 54°C mark on 51 days in that year.

- Overall, it has been noted that Delhi is not only getting hotter in general but the intensity of the heat conditions is also becoming more severe.

- At present, ACs are the most effective (and resource-intensive) means to cool indoor spaces to survive the urban hearth. However, rampant use of ACs is problematic as it adds fuel to the outdoor fire, making cities hotter.

- The release of waste heat from ACs into the ambient environment exacerbates urban heat island effect in the immediate surroundings. A study in Tokyo found that waste heat from air conditioners alone caused a temperature rise of 1–2°C or more on weekdays in the office areas in Tokyo.

- The magnitude of urban heat island effect on weekends and holidays was found to be lesser due to abatement in the use of ACs. (An urban heat island is an urban area or metropolitan area that is significantly warmer than its surrounding rural areas due to human activities)

- Air conditioning is a key parameter of health problems due to heat waves because, on the one hand, it reduces mortality but, on the other hand, depending on the heat management, it can increase street temperature, thereby increasing the heat stress on people who don't have access to an AC.

- Further, traditional building design and urban form of Delhi (and most Indian cities) are of a low, close and dense network with shaded alleyways where people could keep cool during summers. The introduction of ACs in such an urban form ends up heating the entire neighbourhood.
On the other hand, the rapid constructions of high-rises and decreasing green spaces that embody new India are even worse off as they don’t have any passive means to keep cool and are, therefore, captive users of ACs, shooting out millions of mini-heat jets into the urban air shed, creating undue physical and economic stress in the city and reducing the overall quality of life.

### 6.9. Water reserves in 71 of India’s 91 reservoirs have dipped: CWC

- There is a downward trend in water levels in at least 71 of 91 reservoirs across India according to data released by the Central Water Commission (CWC) on June 13.
- The situation is particularly grim in the north-western region — in Gujarat and Maharashtra — and in the southern states of Kerala and Tamil Nadu.
- Maharashtra's situation is especially grim with a deficiency in water reserves in its reservoirs at 68 per cent while Gujarat faced a shortage of 22 per cent.
- Water stored in Kerala's reservoirs depleted sharply in just one week — to 24 per cent on June 13 from 12 per cent on June 6.
- In fact, water storage in important western and southern rivers like the Sabarmati, Godavari, Krishna, and Cauvery is deficient whereas it is ‘highly deficient’ in Tapti, an 80 per cent departure with respect to the average of the last 10 years.
- Suggesting a worsening water crisis in these states, the CWC data highlights that water storage in reservoirs has dipped to less than the average of the last 10 years.
- Out of 91 reservoirs, 39 reservoirs reported more than 80 per cent of normal storage while there is a deficiency in at least 20 reservoirs.
- However, according to CWC, the total live water storage is better than live storage of the corresponding period of last year and more than the average of the last ten years than the corresponding period.
- A delay in the arrival of the monsoon, especially in western India, will worsen the water woes even further. According to the India Meteorological Department (IMD), the delay has already pushed the country’s rainfall deficiency in the first nine days of June to 45 per cent.

### 6.10. India to host UN meet on land degradation in September

- India for the first time will host the 14th session of the Conference of Parties (COP-14) of the United Nations Convention to Combat Desertification (UNCCD) in September. India will take over the COP presidency from China for two years until the next COP in 2021. It will see participation from at least 5,000 delegates from nearly 197 countries and will be held between September 2 and 14 in Delhi. One of the primary functions of the COP is to review reports submitted by the Country Parties, detailing how they are carrying out their commitments. It was announced on 17th June, World Day to combat desertification and drought.
- It was the 25th anniversary of the Convention on 17 June 2019 in Ankara, hosted by the government of Turkey. The anniversary campaign was celebrated under the slogan "Let's grow the future together"
The United Nations has three major Conventions: the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (UNCCD). Established in 1994, the UNCCD is the only legally binding international agreement linking environment and development issues to the land agenda.

6.11. Forest Landscape Restoration (FLR)

- Ahead of the COP-14, Environment minister launched a flagship project, part of a larger international initiative called the Bonn Challenge, to enhance India’s capacity for forest landscape restoration (FLR).
- Forest landscape restoration (FLR) is the ongoing process of regaining ecological functionality and enhancing human well-being across deforested or degraded forest landscapes.
- FLR is more than just planting trees – it is restoring a whole landscape to meet present and future needs and to offer multiple benefits and land uses over time.
- It will be implemented during a pilot phase of three-and-a-half years in Haryana, Madhya Pradesh, Maharashtra, Nagaland and Karnataka. The project will aim to develop and adapt the best practices and monitoring protocols for the country, and build capacity within the five pilot States.
  ✓ This will eventually be scaled up across the country. It will be in partnership with The International Union for Conservation of Nature (IUCN).
- India faces a severe problem of land degradation, or soil becoming unfit for cultivation. A 2016 report by the Indian Space Research Organisation found that about 29% of India’s land (in 2011-13) was degraded, this being a 0.57% increase from 2003-05.
- At the previous edition of the COP, India had committed to restore 13 million hectares of degraded and deforested land by the year 2020, and an additional 8 million hectares by 2030.
- The Bonn Challenge is a global effort to bring 150 million hectares of the world’s deforested and degraded land under restoration by 2020, and 350 million hectares by 2030.

6.12. The United Kingdom (UK) is on track to become the first G7 country to legislate for net zero emissions by 2050.

- The Climate Change Act passed in 2008 will be amended in the British Parliament in order to reach the target of net zero emissions by 2050.
- (The Climate Change Act 2008 is an Act of the Parliament of the United Kingdom. The Act makes it the duty of the Secretary of State to ensure that the net UK carbon account for all six Kyoto greenhouse gases for the year 2050 is at least 80% lower than the 1990 baseline, toward avoiding dangerous climate change.)
- This new target is based on advice from experts of the Committee on Climate Change, commissioned by the government in October 2018.
- In 2008, the UK’s original target was an 80 per cent reduction in emissions by 2050. Since then, the projected whole economy cost of reaching the target has reduced dramatically because of advances in green technology.
The Committee on Climate Change believes that net zero emissions can be achieved within the estimates set out in the 2008 Climate Change Act.

The report by the Committee projects significant benefits to public health and savings under the National Health Service from better air quality and less noise pollution, as well as improved biodiversity.

Other members of the Group of seven industrially developed countries – Canada, France, Germany, Italy, Japan, and the United States – are also expected to follow the UK’s move. The UK will conduct a further assessment within 5 years to confirm that other countries are taking similarly ambitious action.

The UK is already a centre for clean growth and innovation. Low carbon technology and clean energy contribute £44.5 billion to its economy every year.

✓ It would be ending the sale of new diesel and petrol cars and vans through the government’s policy document, “Road to Zero Strategy”, and protecting biodiversity and promoting sustainability through a 25-year Environment Plan.

6.13. Environment and energy ministers meet of the Group of 20 major economies

Group of 20 environment ministers agreed to adopt a new implementation framework for actions to tackle the issue of marine plastic waste on a global scale, the Japanese government said after hosting the two-day ministerial meeting.

Environment and energy ministers of the Group of 20 major economies met in Karuizawa, northwest of Tokyo, ahead of the G20 summit in Osaka, western Japan, on June 28-29.

One of the top issues was ocean plastic waste as images of plastic debris-strewn beaches and dead animals with stomachs full of plastic have sparked outrage, with many countries banning plastic bags outright.

The new framework is aimed at facilitating further concrete action on marine waste, though on a voluntary basis, after the G20 Hamburg Summit in Germany adopted the “G20 action plan on marine litter” in 2017.

Under the new framework, G20 members will promote a comprehensive life-cycle approach to prevent and reduce plastic litter discharge to the oceans through various measures and international cooperation.

✓ They will also share best practices, promote innovation and boost scientific monitoring and analytical methodologies.

- Renewable energy’s share in power consumption is increasing undoubtedly, but people would have consumed more had policy makers prioritised the sector, according to REN21’s Renewable 2019 Global Status Report (GSR) released on June 18, 2019.

- Erratic policy decisions kept the world from using the sector to its potential in meeting climate change targets, added the report.

- In India, which ranked fourth globally for new investment in renewable energy in 2018, the investment decreased 16 per cent compared to 2017, read the report by the think tank that focuses on renewable energy policy.

- The report attributes this to factors like:
  - Land and transmission constraints
  - 25 per cent safeguard duty on imports from China and Malaysia
  - Flaws in tender scheme
  - Tax uncertainties

- India’s new power generation capacity from solar photovoltaic panels decreased compared to 2017, according to the report. However, India placed fifth, overtaking Italy, with 33 giga watts (GW) total installed capacity.

- The report confirmed that installed renewable power capacity was more than that of fossil fuel and nuclear power combined for the fourth consecutive year.

- Around 100 GW of solar PV were added in 2018 which is enough to meet more than 25 per cent of electricity demand in France, the report added.

Issues

- However, lack of ambitious and sustained policies to drive decarbonising in heating, cooling and transport sectors indicates that countries are not trying to maximise the benefit of energy transition to move to cleaner options, the REN21 report added.

- “Renewables now supply around 26 per cent of global electricity production but the transport, cooling and heating sectors lag far behind in renewable adoption,” highlighted the report.

- Underlining the subsidy support being given to fossil fuel, the GSR read that lack of political will and fossil fuel subsidies are threatening to derail the crucial United Nations 2030 Climate and Development Goals.

- Only 40 countries have taken some measures in terms of fossil fuel subsidy reform since 2015, while 112 countries still continue with the subsidy, found the status report. Also, 73 countries provided subsidies of more than $100 million each in 2017.

- Only 44 countries have implemented carbon pricing policies and most countries have continued supporting subsidies for fossil fuel industry, the report read. Estimated total global subsidies for fossil fuel consumption were $300 billion in 2017, an 11 per cent increase from 2016, it added.
Researchers produce kerosene from sunlight, CO2 and water

In a first, German researchers have used sunlight, carbon dioxide (CO2) and water to make kerosene, which has potential to revolutionise the energy sector, according to German-Aerospace Centre (DLR).

In a pilot project, researchers from the ETH Zurich developed a novel technology that uses concentrated solar energy to synthesise liquid hydrocarbon fuel from water and CO2. For this product, CO2 and water are taken directly from the air and split using solar energy. The process yields synthesis gas or syngas — a mixture of hydrogen and carbon monoxide. It is subsequently processed and converted into kerosene, methanol or other hydrocarbons.

The reversal of combustion is accomplished via a high-temperature thermochemical cycle based on metal oxide redox reactions, which converts water and CO2 into energy-rich synthesis gas (syngas).

The technology is part of the European Union's sun-to-liquid project, which began in January 2016 with the aim to decarbonise transport sector.

Benefits

- The demonstration of this technology could have large effects on the transport sector, especially for aviation and shipping that will remain dependent on liquid fuels for long distances.

- If compared with fossil fuels, the sun-to-liquid cuts CO2 emissions by more than 90 per cent, according to the Clean Energy Wire, a network of climate change journalists working from Germany. The project also intends to extract CO2 from the atmosphere.

- The future global kerosene demand can therefore be covered with renewable solar fuels that are compatible with the existing fuel infrastructure.

- According to researchers, the solar mini-refinery based in Zurich establishes that the technology is feasible even in Zurich's climate condition. Currently, the mini-refinery produces around one decilitre of fuel per day. The team next aims to scale the technology for industrial implementation and make it economically competitive.

- How good hydroelectric really is: Non-profit's report calls out sector

- Hydroelectricity has been considered to be a relatively cleaner source of power than firing up ‘dirty’ coal. But how ‘eco-friendly’ is hydel power really? A new report flags environmental hazards and additional threats such as risks posed by the construction of power plants in fragile terrains, especially in Himachal Pradesh.

- The report, the Hidden Cost of Hydropower, by non-profit Himdhara Environment Research and Action Collective has studied risks associated with hydropower construction, especially in regions like the northern hill states.

Findings

- Primary and secondary evidences in the report pointed towards the impacts triggered by underground construction for run-of-river projects, highlighting potential environmental hazards.
• The report blamed “failure of policy, coupled with the absence of functional regulation and governance institutions”.

• It blamed the Central Water Commission and the Central Electricity Authority for overlooking “hazard vulnerability and safety aspects”. Despite being aware that geological challenges and surprises reportedly delay projects, the CEA “has not fed (this) into planning”.

• The report pulled up Expert Appraisal Committee of the Union Ministry of Environment, Forests and Climate Change for “hardly ever” deliberating on environmental hazards and disaster-vulnerability of such projects. Little heed is paid even when issues are repeatedly raised by environmental researchers, activists and community representatives, the report alleged.

• Even cumulative environment impact assessment studies for projects on the Sutlej and Beas rivers haven’t addressed the issues, according to the dossier.

• It blamed the state Pollution Control Board for not monitoring violations. Unless a central law makes states responsible for the safety of dams, authorities and regulation will continue to be weak, it added.

• Uncertainties, hazards and risks in Himalayan states, including Jammu and Kashmir and those in the North East, had environmental and financial implications. But no punitive or legal action has been taken.

• Decreasing costs of thermal energy and the subsidies for solar power has been eating into revenues of Himachal’s hydel sector for a few years now. Yet, in a decade, nearly 40 hydel projects were decided to be bailed out of bad loans worth Rs 16,000 crore in 2016-17. It was an opportunity to review policy and viability. A report by the Parliamentary Standing Committee on Energy, tabled in 2018, however “fails to look into the challenges faced by this sector,” according to the report.

• Presenting Himachal's hydel power model as something to be followed by other was inappropriate, according to the dossier. There was no mention of environmental impacts and issues of disasters and safety in the report, it pointed out.

• While only projects up to 25 MW capacity were considered eligible for financial assistance and loans at lower interest rates, the committee proposed to recognise projects with capacity above 25 MW as renewable sources.

• The report called for a pause on the sector in the Himalayas to stop further devastation. “There needs to be a complete stop to freebies and subsidies to the hydropower sector based on the ‘green' tagging,” it added.

• Construction activities perhaps accentuate the fragility of the new-fold mountains, according to the report. It underscored the need for investigation before undertaking underground component of civil work in hydel projects, including blasting.

• A report of the state’s own disaster management cell says that around 10 mega hydropower stations are located in the medium and high-risk landslide area,” It pointed out.

• Visuals and testimonies from Himdhara Collective’s document of affected people from project sites in Kinnaur, Kullu and Chamba at Satluj, Beas and Ravi basins were presented. There were also case studies of the Parbati II, Karccham Wangtoo, Kashang and Bajoli Holi projects to show how landslides, drying up of springs, damages to houses, farms and forests have made the lives difficult.
The document also referred to CAG reports to explain how costs had to be borne by affected people or are transferred to the public exchequer, in cases of unwelcome surprises. Costs that producers have been forced to bear have led to financial losses, bad loans and cumulatively a slump.

As a solution, it has been suggested to commission an independent scientific review on the immediate or long-term implications of construction work for hydropower development in the Himalayas. Citizens’ engagement, a strong public consent mechanisms and a grievance redressal can also help.

Himachal has been at the forefront of hydel power, with 27 operational projects above 25 MW capacity each, totalling 9,755 MW. Eight more, totalling 1,855 MW, are under construction and 18 (5,218 MW) are in various stages of planning, Himdhara said.

6.16. Drought watch: More than 44% of India now suffers

More than 44 per cent of India's areas were under various degrees of drought conditions (abnormally dry to exceptionally dry) as of June 10, 2019 — that is nearly 11 percentage point over a year ago, according to the Drought Early Warning System (DEWS).

Within this, ‘severe to exceptionally dry conditions' prevailed in 17.33 per cent area, according to the real-time drought monitoring platform. While just 0.65 per cent of area had ‘exceptionally dry' conditions in June 2018, it has now jumped to 5.87 per cent, stated the latest data. Further, the delay in southwest monsoons has worsened the drought index, the DEWS reported.

India has witnessed the second-driest pre-monsoon season in the last 65 years. The country received 99 millimeters (mm) rainfall between March and May — with 23 per cent below the normal rainfall during this time of the year —, showed the latest data from the India Meteorological Department (IMD).

The deficit is prevalent across the country with south India having a deficit of 47 per cent, followed by northwest India (30 per cent), central India (18 per cent), and east and northeast (14 per cent).

The month of June, which accounts for 18 per cent of rain, may end up with a deficit of 40 per cent in at least 66 districts across the country. The low rainfall would be difficult to make up for the deficit in coming months, it noted.

According to the IMD, there is also a possibility of weaker monsoon in July. It could be a great cause of worry, as the month is crucial and receives one third of the total monsoon rains in the country.

The sluggish pace of the south west monsoon has compounded the severe dry spell. As a result, at least 30 sub-divisions are likely to experience 'deficient' and 'largely deficient' monsoon season, the IMD said. Most of these are in Andhra Pradesh, Kerala, Madhya Pradesh, Maharashtra, Chhattisgarh, and the north eastern states. Only four sub-divisions in Karnataka, Gujarat, and Lakshadweep have witnessed 'normal' rainfall.

Low rainfall has also contributed to a downward trend in water levels in at least 71 of 91 reservoirs across India, a recent bulletin by the Central Water Commission (CWC), has showed.

The situation is particularly grim in the north-western region — in Gujarat and Maharashtra — and in the southern states of Kerala, Andhra Pradesh, and Tamil Nadu, it said.
6.17. A water clinic for elephants opens on the banks of the Yamuna

- India has opened its first specialised hydrotherapy treatment for elephants suffering from arthritis, joint pain and foot ailments near the Wildlife SOS' Elephant Conservation and Care Centre (ECCC), which currently houses 20 rescued elephants and is run in collaboration with the Uttar Pradesh Forest Department and the NGO Wildlife SOS.

- The new hydrotherapy jumbo pool is 11-foot-deep and has 21 high pressure jet sprays that create water pressure that massage the elephants’ feet and body and help in increasing blood circulation.

- (Hydrotherapy is a form of physical therapy that uses the therapeutic benefits of water to perform physical rehabilitation in animals.)

- It is India's first and fully equipped hospital dedicated to elephants in collaboration with Uttar Pradesh Forest Department. It as been established in Farah block of Mathura, complete with wireless digital XRay, laser treatment and dental X-ray facilities.

- IUCN Status – Endangered. It is under schedule I of the Indian Wildlife (Protection) Act, 1972 and in Appendix I of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES). Karnataka has the highest number of elephants followed by Assam and Kerala respectively.

6.18. US EPA scraps Obama-era plan limiting coal emissions

- The United States Environmental Protection Agency's (EPA) new guidelines dilute the Barack Obama era Clean Power Plan (CPP) to cut carbon dioxide (CO2) emissions from thermal power generators.

  ✓ American states will now get to set their own guidelines to keep in check emission from coal-fired power plants, according to the new Affordable Clean Energy rule.

  ✓ Existing coal-powered plants can now continue to operate as they were; they would not be forced to meet the regulations, the CNN reported on June 19, 2019.

- The US has been historically the biggest emitter of greenhouse gases that has led to climate change and still continues to be the second biggest emitter.

Why ACE?

- The CPP, that forced companies to switch to greener power sources, was opposed by a section for being restrictive — in line with President Donald Trump's much-publicised scepticism about global warming and climate change.

- Unlike the Clean Power Plan, ACE adheres to the Clean Air Act and gives states the regulatory certainty they need to continue to reduce emissions and provide a dependable, diverse supply of electricity that all Americans can afford.

- ACE would outpace CPP. The CPP aimed to cut power sector emissions by 30 per cent below the 2005 levels by 2030. ACE boasts of being able to reduce CO2 emissions "by as much as 35 per cent below 2005 levels".

- The Government of Bihar recently banned felling of trees, citing increasing pollution as well as a fatal heat wave. Trees on private land, however, can be felled in the absence of a tree-protection Act in Bihar.

- The current order was passed under the Forest Conservation Act. All permissions granted to cut trees for development works, have become null and void.

**Reasons**

- The order has cited increasing pollution in Patna, Gaya, Bhagalpur, Muzaffarpur and other cities in the state. Another reason was the severe heatwave, which killed 90 people in Gaya, Aurangabad and Nawada districts besides rendering many others sick.

- The government's decision could have been a reaction to the indiscriminate felling of big, old trees in Capital Patna during the last few years for the construction of roads and buildings.

**Changes**

- Anybody who would now want to remove a tree for any development project would have to translocate it. Engineers have been asked not to cut trees while building or expanding roads. The forest department has also expressed its displeasure over filling roots of trees with concrete on roads in various towns.

**6.20. Ozone pollution in Delhi worse this summer than last: CSE**

- People in Delhi faced more days with average ozone levels spiking over the national air quality limits in 2019 than last year, according to an analysis by Centre for Science and Environment (CSE). It is due to intense heat waves in this summer.

- The national capital witnessed 122 microgram per cubic metre (µg/cu m), of ozone pollution —
  - which is 1.22 times higher than the eight-hour average standard. During 2018, it had gone up to 106 µg/cu m which is 1.1 times higher than the standard, the analysis showed.

- The eight-hour average standard for ozone exposure is 100 µg/cu m. Ozone — along with particulate matter — remained the dominant pollutant of the day for 28 days between April 1 and June 5. In comparison, the pollutant was the highest for 17 days in 2018.

**Effect**

- This is a matter of serious concern as ozone is a highly reactive gas and can have immediate adverse effect on those suffering from asthma and respiratory conditions.

**Formation**

- Ozone is not directly emitted from any source. It gets formed when emissions from vehicles, industry or power plants — nitrogen oxide and volatile organic compounds — react in the air under the influence of sunlight and temperature.

- To curb this, governments must –
  - Keep real world emissions from vehicles low and phase in electric mobility.

www.YouTube.com/SleepyClasses
www.SleepyClasses.com
✓ Scale up - massively — convenient, affordable and reliable public transport systems
• Initiate more pedestrian- and cycling-friendly, compact and accessible development
• Introduce city-wide parking management and pricing and low emissions zones to restrain use of personal vehicles
• Aggressively control industrial emissions

6.21. Among world’s worst polluters, ASEAN vows to tackle ocean waste

• With Southeast Asia awash in rubbish, from plastic-choked whales to trash-clogged canals, leaders are planning to push through a deal to fight maritime debris at a regional meeting this weekend.

• Just five Asian countries — China, Indonesia, the Philippines, Vietnam and Thailand — dump more than half of the eight million tonnes of plastic waste that end up in oceans every year, according to a 2017 Ocean Conservancy report.

• The region has come under fire for not doing enough to tackle its mounting trash troubles, with single-use plastic and sub-par waste management adding to the problem.

• Leaders at a meeting of the Association of Southeast Asian Nations (ASEAN) are expected to sign a “Bangkok Declaration” on fighting maritime waste — a first of its kind — which promises to “prevent and significantly reduce marine debris,” according to a draft. But activists are worried the agreement doesn’t go far enough.

• If we are not reducing single-use plastic at the production process, this ‘Bangkok Declaration’ will not succeed.

• The agreement also omits penalties for the worst offending companies or countries, and fails to specify measures to tackle the problem.

• In addition to spewing out billions of tonnes of trash, these nations are among the world’s top importers of trash from developed countries like the U.S. and Canada.

  ✓ Activists have urged countries to stop accepting rubbish, which can end up in landfills and waterways.

  • Alarming images of polluted canals in the Philippines, plastic-laden Vietnamese beaches, or whales, turtles choking on plastic debris have grabbed global headlines.

  ✓ Some private firms in Thailand and Vietnam have started replacing plastic products with recyclable materials, but government policies have yet to catch up.

6.22. Device to trap ocean plastic waste relaunches

• A floating device designed to catch plastic waste has been redeployed in a second attempt to clean up an island of trash swirling in the Pacific Ocean between California and Hawaii.
• Fitted with solar-powered lights, cameras, sensors and satellite antennas, the device intends to communicate its position at all times, allowing a support vessel to fish out the collected plastic every few months and transport it to dry land.

• The plastic barrier with a tapered 10-foot-deep (3-meter-deep) screen is intended to act like a coastline, trapping some of the 1.8 trillion pieces of plastic that scientists estimate are swirling in the patch while allowing marine life to safely swim beneath it.

• During its first run, the organization said marine biologists on board the support vessel did not observe any environmental impact.

6.23. Indian temple helps nurture ‘extinct’ turtle back to life

• An “extinct” species of turtle is being reintroduced to the wild after a small population was found flourishing in a pond at an Indian temple.

• The black soft shell turtle (Nilssonia nigricans) was declared extinct in the wild 17 years ago by the International Union for Conservation of Nature. However, in Hayagriva Madhav temple in Assam, these reptiles are believed to be a reincarnation of Hindu deity Vishnu and so they are protected.

• However, given their ritual nature, scientists are denied complete access to these ponds and hence have used the technique of extracting environmental DNA (eDNA) to confirm the presence of specific varieties.

  ✓ In addition to N. nigricans, tests at the Nagshankar temple pond in Assam have confirmed the presence of two more species — Nilssonia gangetica or Indian soft-shell turtle, classified as Vulnerable, and Chitra indica or South Asian narrow-headed soft shell turtle, listed as Endangered by the IUCN.

• Environmental DNA or eDNA is DNA that is collected from a variety of environmental samples such as soil, seawater, snow or even air rather than directly sampled from an individual organism.

  ✓ As various organisms interact with the environment, DNA is expelled and accumulates in their surroundings.

  ✓ Example sources of eDNA include, but are not limited to, feces, mucus, gametes, shed skin, carcasses and hair)

• India hosts 28 species of turtles, of which 20 are found in Assam. But consumption of turtle meat and eggs, silt mining, encroachment of wetlands and change in flooding pattern have had a disastrous impact on the State’s turtle population. 70% of the species found in Assam are threatened with extinction.
The temple ponds have more turtles than they can sustain and lack egg laying space because of so-called beautification of these ponds with concrete boundary. Besides, temple turtles are fed non-natural food such as bread and wheat balls, which alters their biology.

6.24. Joint effort to conserve wildlife at Bandipur

- National Tiger Conservation Authority (NTCA) has convened an inter-state meeting of senior forest personnel from Karnataka, Tamil Nadu and Kerala at Bandipur in Karnataka.
- It discussed various issues, including the invasion of invasive plants in the forest areas, steps being adopted by the authorities to vulture conservation, movement of radio collared higher mammals such as tiger and elephants and various measures to be adopted to mitigate man-animal conflict in the region.
- The meeting decided to intensify joint efforts to eradicate invasive plants such as Senna Spectabilis which caused major threat to the wildlife habitat in the Nilgiri Biosphere Reserve.
- Standard operating procedure of the NTCA, such as joint patrolling, share enforcement-related information and monthly meeting of senior forest officials of borders areas of tiger reserves and protected areas, would be executed effectively for the conservation of big cats.
- Joint conservation measures with public participation would be executed to mitigate increasing human-wildlife conflict on the forest fringes of the region. As part of it, information regarding radio collared animals and their movements would be exchanged among the department staff.
- Joint actions would be taken to douse forest fire and information on such incidents would be handed over to the officials in the adjacent sanctuaries and tiger reserves.
- Information on accused in forest cases would also be exchanged each other to avert wildlife-related crimes.

6.25. Himalayan glaciers are melting twice as fast since 2000: study

- Comparing data obtained by Cold War-era spy satellites with images from modern stereo satellites, scientists have shown that Himalayan glaciers have lost more than a quarter of their ice mass since 1975, with melting occurring twice as fast after the turn of the century as average temperatures rose.
- In the 1970s, at the height of the Cold War, the U.S. had deployed spy satellites that orbited the globe and took thousands of photographs, using a telescopic camera system, for reconnaissance purposes. Film recovery capsules would be ejected from the KH-9 Hexagon military satellites and parachuted back to Earth over the Pacific Ocean.
- More than four decades later, scientists are using those same images to show the devastating impact of a warming earth on the Himalayan glaciers.
- The overlapping images, each covering 30,000 square kilometres with a ground resolution of six to nine metres, have been pieced together to form digital elevation models of the Himalayas of that era.
The observed annual mass losses suggest that of the total ice mass present in 1975, about 87% remained in 2000 and 72% remained in 2016. Similar mass loss rates across subregions and a doubling of the average rate of loss during 2000–2016 relative to the 1975–2000 interval have been noticed.

The study goes on to assert that rising temperatures are responsible for the accelerating loss.

“This is consistent with the available multidecade weather station records scattered throughout HMA [High Mountain Asia, which includes all mountain ranges surrounding the Tibetan Plateau] which indicate quasi-steady mean annual air temperatures through the 1960s to the 1980s with a prominent warming trend beginning in the mid-1990s and continuing into the 21st century, noting an average increase of 1° celsius since 2000.

6.26. Climate change affects major crops in India: Study

- Yields from rice, India's main crop, experience larger declines during extreme weather conditions.
- India's grain production is vulnerable to climate change, say scientists who have found that the yield of the country’s rice crop can significantly decline during extreme weather conditions.
- Researchers from Columbia University in the US studied the effects of climate on five major crops in India: finger millet, maize, pearl millet, sorghum and rice.
  - These crops make up the vast majority of grain production during the June-to-September monsoon season -- India's main grain production period -- with rice contributing three-quarters of the supply for the season.
  - Taken together, the five grains are essential for meeting India's nutritional needs, researchers said.
- The study, published in the journal Environmental Research Letters, found that the yields from grains such as millet, sorghum, and maize are more resilient to extreme weather. Their yields vary significantly less due to year-to-year changes in climate and generally experience smaller declines during droughts. However, yields from rice,
- India's main crop, experience larger declines during extreme weather conditions.
- By relying more and more on a single crop -- rice -- India's food supply is potentially vulnerable to the effects of varying climate. Expanding the area planted with these four alternative grains can reduce variations in Indian grain production caused by extreme climate, especially in the many places where their yields are comparable to rice.
  - Doing so will mean that the food supply for the country's massive and growing population is less in jeopardy during times of drought or extreme weather. Temperatures and rainfall amounts in India vary from year to year and influence the amount of crops that farmers can produce.
- With episodes of extreme climate such as droughts and storms becoming more frequent, it is essential to find ways to protect India's crop production from these shocks.
- The team combined historical data on crop yields, temperature, and rainfall. Data on the yields of each crop came from state agricultural ministries across India and covered 46 years (1966-2011) and 593 of India's 707 districts.
The researchers also used modelled data on temperature and precipitation. Using these climate variables as predictors of yield, they then employed a modelling approach to estimate whether there was a significant relationship between year-to-year variations in climate and crop yields.

✓ This study shows that diversifying the crops that a country grows can be an effective way to adapt its food-production systems to the growing influence of climate change.

✓ And it adds to the evidence that increasing the production of alternative grains in India can offer benefits for improving nutrition, for saving water, and for reducing energy demand and greenhouse gas emissions from agriculture.

6.27. Climate change can trip small island states enroute SDGs:

UN

Many small island developing states (SIDS) may fail to achieve several Sustainable Development Goals by 2030 because of increasing population and climate change risks, according to the United Nation's report on World Population Prospects 2019.

While population growth is keeping all least developing nations from meeting the goals, the problem is compounded by climate change in SIDS. Several SIDS, including Comoros, Guinea-Bissau, Sao Tome and Principe, the Solomon Islands and Vanuatu, are experiencing a sharper population growth than they can handle, read the UN report.

The challenge is bigger for these small countries because of their vulnerability to climate change, climate variability and sea-level rise.

They have higher population growth rate than the global average. While Comoros’ population grows 2.3 per cent per year, the global growth rate is 1.07 per cent, the report highlighted. Similarly, Solomon Island’s population growth rate is 2 per cent, Sao Tome and Principe's is 2.2 per cent and Guinea-Bissau’s population is increasing by 2.5 per cent every year.

The total population of these countries is only 71 million, but growing fast: said to increase to 78 million by 2030 and 87 million by 2050, added the report.

SIDS are a group of small island countries that tend to share similar sustainable development challenges, including small but growing populations, limited resources, remoteness, susceptibility to natural disasters, vulnerability to external shocks, excessive dependence on international trade, and fragile environments.

Climate change affects the development of all nations, regardless of location or size of economy.

✓ Yet, no other group of nations is as vulnerable to its devastating effects as the SIDS, according to the United Nations Development Programme.

✓ One-third of the entire population of SIDS lives on lands that are less than five metres below the sea level.

✓ This makes them highly vulnerable to sea-level rise, storm surge and coastal destruction.

✓ These countries contribute to only 1 per cent of global greenhouse gas emissions, and yet are among the first to experience the worst impacts of climate change, the UNDP added.
Agricultural production, fisheries, and related sectors are declining as the climate changes, threatening livelihoods and economic growth.

In addition, extreme weather spawned by climate change is destroying SIDS land, real estate and infrastructure, with economically catastrophic effects, highlighted UN Environment Programme in a report.

Tourism forms the foundation of many SIDS economies, and the impact that climate change is having and will have on the tourism industry is undeniable. Tourists are also discouraged from travelling to SIDS in the fear of violent and life-threatening storms.

6.28. SIDS

Small Island Developing States (SIDS) are a group of small island countries that tend to share similar sustainable development challenges, including small but growing populations, limited resources, remoteness, susceptibility to natural disasters, vulnerability to external shocks, excessive dependence on international trade, and fragile environments.

The SIDS were first recognized as a distinct group of developing countries at the United Nations Conference on Environment and Development in June 1992.

The Barbados Programme of Action was produced in 1994 to assist the SIDS in their sustainable development efforts. The United Nations Office of the High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS) represents this group of states.

Currently, the United Nations Department of Economic and Social Affairs lists 57 small island developing states. These are broken down into three geographic regions –

- The Caribbean
- The Pacific
- Africa, Indian Ocean, Mediterranean and South China Sea (AIMS).

6.29. Four from India in top 20 water vulnerable megacities

Four Indian cities, Chennai, Kolkata, Mumbai and Delhi have been ranked among the top 20 megacities in the world facing high levels of water scarcity.

A study by World Wildlife Fund (WWF) evaluated 400 cities globally in 2018 with focus on megacities facing high combined levels of water scarcity – recent and projected drought.

Chennai has emerged in top position as the city facing the most severe water scarcity and drought in the world. Kolkata has been ranked at number 2, Mumbai at 11 and Delhi at 15.

Large cities, mostly located along the banks of large rivers, are vulnerable to water scarcity because of the vastly over-allocated and mismanaged river-systems.

Frequent droughts and flooding due to climate change and depleting levels of water in the reservoirs are some of the reasons behind the water crisis in these megacities.

Loss of wetlands is a key reason.
✓ Reports have noted that the world has lost 35% of its wetlands since 1970 and is losing them three times faster than forests.

✓ Wetlands are key. Over half of Kolkata's waste water once drained into the East Kolkata Wetlands without any need to treat the sewage.

✓ But as the wetlands shrink, the city, activists have time and again cited, loses its natural waste water tank, and in the absence of enough sewage treatment plants, the waste water goes straight into the river.

✓ A Ramsar protected site, the EKW was such an efficient system of canals and ponds that treated the city's waste water that the sewage treatment plants were not sanctioned here under the Ganga Action Plan.
7. Science & Technology
To watch the following topics on YouTube click on the links given below:

- Video 1
- Video 2

7.1. Nipah Virus

Context
- In 2018, Kerala witnessed its first outbreak of the Nipah virus. Nipah is a zoonotic disease:
  - A disease transmitted from animals to humans
  - Virus belongs to a new genus termed Henipavirus

About the Virus
- It is a fragile virus
- It may survive in the environment for several hours up to a couple of days outside of bats

Transmission
- From Humans: Humans are infected after direct contact with infected bats, pigs or from other Nipah virus-infected persons
  - Fruit bats, also known as flying foxes, are natural reservoir hosts of Nipah and Hendra viruses
- From Animals: Virus is present in bat urine, and potentially in bat faeces, saliva and birthing fluids
- Contaminated Food: Fruits contaminated with bat secretions may potentially transmit infection

Symptoms
- Similar to that of influenza: fever, muscle pain and respiratory problems
  - Influenza-like illness with symptoms of pneumonia with fever, cough, sore throat, headache and tiredness
- Inflammation of the brain can also cause disorientation
- Late onset of Encephalitis can also occur
- Sometimes a person can have an asymptomatic infection, and be a carrier of Nipah and not show any symptoms
- It presents itself in humans in the form of Acute Encephalitis Syndrome (AES), with symptoms of headache, high fever, drowsiness that progresses to convulsions and/or coma and death. After exposure and an incubation period of 5 to 14 days, the illness presents with 3 to 14 days of fever and headache, followed by drowsiness, disorientation and mental confusion
- Can progress to coma within 24 to 48 hours
• 50% patients show severe neurological/pulmonary signs

Prevention
• Fruits bitten by bats or birds should not be eaten
• Fruits and vegetables should be thoroughly washed before eating
• Avoid exposure to sick pigs
• Hand hygiene, personal protective equipment practices should be followed
• Seeking clinical care is essential for early detection and better care

Treatment
• There is no preventive treatment
• Symptomatic and supportive care is the mainstay of treatment

7.2. E - Cigarettes
• An electronic cigarette or Electronic Nicotine Delivery System (ENDS) is a battery- operated device that emits doses of vaporized nicotine, or non-nicotine solutions, for the user to inhale
• It aims to provide a similar sensation to inhaling tobacco smoke, without the smoke (i.e., without burning tobacco)
• Because they heat a liquid to generate a nicotine-containing aerosol, instead of burning tobacco, they do not produce toxic tars
• They are marketed as a way to stop or cut down on smoking
• They first appeared in Chinese market in 2004 and were subsequently taken up by millions around the world

In India
• Delhi High Court, on a hearing in a PIL, was planning to ban ecigarettes sale
• Karnataka and Maharashtra has already banned the same
• ICMR has recommended complete prohibition on ENDS or ecigarettes in India in the greater interest of protecting public health

Concerns
• While it may help existing smokers to give up, there is concern that young people are starting to vape for its own sake, and not to replace tobacco use
• At high temperatures, e-cigarettes produce carcinogens such as formaldehyde, although these are fewer in number compared to regular cigarettes. They also increase the odds of lung disease and myocardial infarction, but to a lesser extent than normal cigarettes do
• E-cigarette use adversely affects the cardiovascular system, impairs respiratory immune cell function and airways in a way similar to cigarette smoking and is responsible for severe respiratory disease. It also poses risk to foetus, infant, and child brain development
**7.3. Sexually Transmitted Infections**

- Every day, more than 1 million new cases of curable sexually transmitted infections (STIs) are detected in people aged 15-49 years, according to latest data released by the World Health Organisation (WHO)
  - This amounts to more than 376 million new cases annually of four infections — chlamydia, gonorrhoea, trichomoniasis and syphilis
  - On average, approximately 1 in 25 people globally have at least one of these STIs
  - WHO says they are seeing a concerning lack of progress in stopping the spread of sexually transmitted infections (STI) worldwide

- WHO finds that there remains a persistent and endemic health threat worldwide and since the last study in 2012 there has been no substantive decline in either the rates of new or existing infections

**Recommendations**

- Timely and affordable testing and treatment are crucial for reducing the burden of STIs globally, alongside efforts to encourage people who are sexually active to get screened for STIs
- Pregnant women should be systematically screened for syphilis as well as HIV
- All bacterial STIs can be treated and cured with widely available medication. However, recent shortages in the global supply of benzathine penicillin has made it more difficult to treat syphilis.

**Impact**

- STIs have a profound impact on the health of adults and children worldwide. If untreated, they can lead to serious and chronic health effects that include neurological and cardiovascular disease, infertility, ectopic pregnancy, stillbirths, and increased risk of HIV
  - Syphilis alone caused an estimated 2,000,000 stillbirths and newborn deaths in 2016, making it one of the leading causes of infant mortality globally
- They are also associated with significant levels of stigma and domestic violence

**7.4. Fixed Dose Combination Drugs**

**What are FDCs?**

- It is a cocktail drug, meaning it has two or more therapeutic ingredients in a single dose
- Many of the popular cough syrups, painkillers, topical medications, antidiabetes drugs as well as antibiotics in the market today are FDCs brands
Domestic pharmaceutical market size is pegged at around Rs 1.18-1.2 lakh crore, and FDCs reportedly make up nearly 50% of the sales.

**Why Government banned FDCs?**

- Government is convinced that a large part of the products sold as FDCs are —irrational and lack therapeutic justification, besides risking the health of patients.
- Move is also to check the misuse of such medicines in India, which has the highest market share of FDCs over single drugs.

**Are all FDCs dangerous?**

- A government document titles ‘Policy Guidelines for Approval of Fixed Dose Combinations in India’, released in June 2013 had claimed that “FDCs have shown to be particularly useful in the treatment of infectious diseases like HIV, malaria and tuberculosis where giving multiple antimicrobial agents is the norm. FDCs are also of use in chronic conditions especially when multiple disorders often co-exist.”
- Not all are unsafe. Some are crucial to treat chronic illnesses like diabetes and HIV.
- At the same time, there are many marketed with licenses approved only by state regulatory agencies instead of the DCGI. These FDCs could be irrational and unsafe for patients.
- Some doctors are also of the view that rampant use of FDCs has allowed antibiotic resistance to assume threatening proportions in India.
- FDCs are accepted in international markets like the US and the EU.
  - However, the applicant has to prove the therapeutic advantages of those combinations, based on long-term clinical studies.

**7.5. Astrobotte**

- It is a free-flying robot system that will help researchers test new technologies in zero gravity and perform routine work alongside astronauts aboard the International Space Station (ISS).
  - They can move in any direction and turn on any axis in space.
  - Astrobotte system consists of three cubed-shaped robots, software and a docking station used for recharging.
  - The robots use electric fans as a propulsion system that allows them to fly freely through the microgravity environment of the station.
- Bumble became the first Astrobotte robot to fly under its own power in space.
- After Bumble and a second Astrobotte, ‘Honey,’ launched to the space station, a third robot named ‘Queen’ is also scheduled in coming months.
- Working autonomously or via remote control by astronauts, flight controllers or researchers on the ground, these robots are designed to complete tasks such as taking inventory, documenting experiments conducted by astronauts with their built-in cameras or working together to move cargo throughout the station.
• In addition, the system serves as a research platform that can be outfitted and programmed to carry out experiments in microgravity - helping us to learn more about how robotics can benefit astronauts in space

• It builds on the legacy and lessons learned from the SPHERES (Synchronised Position Hold, Engage, Reorient, Experimental Satellite) robots, which have been aboard

### 7.6. Sheath Blight

• It is a fungal disease caused by Rhizoctonia solani

• Infected leaves senesce or dry out and die more rapidly, young tillers can also be destroyed

  ✓ As a result, the leaf area of the canopy can significantly be reduced by the disease. This reduction in leaf area, along with the diseased-induced senescence of leaves and young infected tillers are the primary causes of yield reduction

• It occurs in areas with high temperature (28-32°C), high levels of nitrogen fertiliser and relative humidity of crop canopy from 85-100%

• Plants are more vulnerable to sheath blight during the rainy season

• High seeding rate or close plant spacing, dense canopy, disease in the soil, sclerotia or infection bodies floating on the water, and growing of high yielding improved varieties also favour disease development

• Sheath blight is considered to be an important disease next to rice blast

  ✓ Rice sheath blight is an increasing concern for rice production especially in intensified production systems

• There is currently no resistant rice variety available for cultivation. The main management options available to minimize sheath blight include:

  ✓ use a reasonable level of fertilizer adapted to the cropping season

  ✓ use reasoned density of crop establishment (direct seeding or transplanting)

  ✓ carefully control of weeds, especially on the levees

  ✓ drain rice fields relatively early in the cropping season to reduce sheath blight epidemics

  ✓ use fungicide to treat seeds

  ✓ improve canopy architecture by reducing seeding rate or providing wider plant spacing

### 7.7. National Animal Disease Control Programme

• It is a new Central Sector Scheme for Foot and Mouth Disease (FMD) and Brucellosis

**Foot and Mouth Disease (FMD) control programme**

✓ The programme envisages 100% vaccination coverage of cattle, buffaloes, sheep, goats and pigs at six month interval in the entire country

✓ Animals will be identified using unique animal identification ear tags
✓ It also includes de-worming of targeted population of livestock twice a year
✓ Foot and Mouth disease is an infectious and sometimes fatal viral disease that affects clovenhoofed animals, including domestic and wild bovids
   ✤ The virus causes a high fever for between two and six days, followed by blisters inside the mouth and on the feet that may rupture and cause lameness

**Brucellosis Control Programme:**
- It envisages 100% vaccination coverage of female cattle and buffalo calves (4-8 months of age) once in a lifetime
- Brucellosis is also known as Malta fever, Mediterranean fever, a bacterial infection, is a highly contagious zoonosis caused by ingestion of unpasteurised milk or undercooked meat from infected animals, or close contact with their secretions
- It induces inconstant fevers, miscarriage, sweating, weakness, anaemia, depression and muscular and bodily pain

### 7.8. Janani Suraksha Yojana
- It is a safe motherhood intervention under the National Health Mission (NHM), launched with the objective of reducing maternal and neonatal mortality.
- It promotes institutional delivery among pregnant women especially with weak socio-economic status i.e. women from Scheduled Castes, Scheduled Tribes and BPL households
- The scheme focuses on the poor pregnant woman with special dispensation for States having low institutional delivery rates namely the States of Uttar Pradesh, Uttarakhand, Bihar, Jharkhand, Madhya Pradesh, Chhattisgarh, Assam, Rajasthan, Orissa and Jammu and Kashmir.
  ✓ While these States have been named as Low Performing States (LPS), the remaining States have been named as High performing States (HPS)
- The exclusion criteria has been removed and eligible mothers are entitled to JSY benefit regardless of any age and any number of children
- BPL pregnant women, who prefer to deliver at home, are entitled to a cash assistance of Rs 500 per delivery regardless of age of women and the number of children
- It enables the States/UTs to hire the services of a private specialist to conduct Caesarean section or for the management of Obstetric complications, in the Public Health facilities, where Government specialists are not in place
- States are encouraged to accredit private health facilities for increasing the choice of delivery care institutions
- Acute Encephalopathy Syndrome (AES)
- It is a serious public health problem in India characterised as acute-onset of fever and a change in mental status (mental confusion, disorientation, delirium, or coma) and/or new-onset of seizures in a person of any age at any time of the year

www.YouTube.com/SleepyClasses
www.SleepyClasses.com
It most commonly affects children and young adults and can lead to considerable morbidity and mortality

**Causes**

- Viruses are the main causative agents, although other sources such as bacteria, fungus, parasites, spirochetes, chemicals, toxins and noninfectious agents have also been reported over the past
  - Herpes simplex virus, Influenza A virus, West Nile virus, measles, dengue etc. are other causes of AES in sporadic and outbreak form in India
  - Japanese encephalitis virus (JEV) is the major cause of AES in India
    - AES due to JEV was clinically diagnosed in India for the first time in 1955 in Madras
    - In India during 2018, 15% of cases of AES were found positive for infection due to JEV
  - Some are the zoonotic disease, that transmitted from animals to humans via mosquitoes (e.g. Japanese encephalitis virus, and West Nile virus) or ticks, (Tick-borne encephalitis virus), while for other flaviviruses humans are the natural hosts
  - Nipah virus, Zika virus are also found as causative agents for AES
  - AES cases were reported mainly from Assam, Bihar, Jharkhand, Karnataka, Manipur, Meghalaya, Tripura, Tamil Nadu, Uttar Pradesh
  - The AES cases in Muzaffarpur, Bihar and adjoining litchi producing districts have been observed mostly during April to June particularly in children who are undernourished with a history of visiting litchi orchards. In 2014, a relationship between consumption of litchi and AES was postulated by National Centre for Disease Control, Delhi (along with Centre for Disease Control US) in acute encephalitis in children, in Muzaffarpur

**Diagnosis**

- National Vector Borne Disease Control Programme in India has set up country wide surveillance for AES through sentinel sites with a focus on detecting Japanese encephalitis (JEV). In the sentinel surveillance network, AES/JE is diagnosed by IgM Capture ELISA, and virus isolation is done in National Reference Laboratory.

**Management**

- Management is essentially symptomatic
  - The disease affects the Central Nervous System and can cause severe complications, seizures and even deaths.

**Analysis Of Current Situation In Bihar**

- A Lancet study brings out three unacceptable factors
  - Continued lack of clarity on the direct and distal causal factors that should and could have been addressed on priority, enabling the formulation and enforcement of protocols for prevention and treatment
    - This is saddening since within a space fo 5 years, there has been at least four outbreaks of child deaths in Bihar and UP — 2014, 2016, 2017 and 2019
Poverty-associated hunger and dietary practices: The children who died were all from poor families whose poverty status was multidimensional — unclean habitation, poor housing, overcrowding, hunger and illiteracy.

Eating unripe, rotten litchis, from the ground and partially consumed ones, followed by no meal and not eating litchis per se, is the cause.

Collapse of primary healthcare system: Healthcare in general and primary care in particular has been severely neglected in the past. Even as the agenda of revitalising a moribund primary healthcare system is unfinished, policy attention shifted to non-communicable disease control and hospital insurance. Preventive measures and simple treatments like providing glucose correction can be done in PHCs and community centres at the block level.